







L3 ANTHONY 10 OF 12 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 1965:7836 CAPLUS Full-text

DOCUMENT NUMBER: 691784

ORIGINAL REFERENCE NO.: 43:1094,302a

TITLE: Band assignment problem in the uv spectra of tertiary phosphines. Oligo(phenylenebenzylidene)diphenylphosphines

AUTHOR(S): Schmid, Walter; Staudinger, Walter; Volmar, Walter

CORPORATE SOURCE: Tech Hochsch, Vienna, Austria

SOURCE: Monatshafte Fur Chemie (1967), 98(4), 1396-200

CONTRIB: REICHM

DOCUMENT TYPE: Journal Article

LANGUAGE: English

AB The uv spectra of phosphines, Ph<sub>3</sub>P(OH)<sub>2</sub> and their oxides are reported. They are compared with Ph<sub>3</sub>P and Ph<sub>3</sub>PO. They show a marked change in the spectra. A more pronounced upon introduction of two PhO groups

IT 112-15

RE: Properties

(spectra (visible and uv) of, bathochromic shifts in)

IN 4129-45-7 CAPLUS

CH Phosphine oxide, 1,1'-(1,1'-biphenyl)-4,4'-dibis[1,1-diphenyl-

(CA INDEX NAME)



L3 ANTHONY 11 OF 12 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 1965:498542 CAPLUS Full-text

DOCUMENT NUMBER: 591784

ORIGINAL REFERENCE NO.: 63:18143c-f

TITLE: Organometallic oxides. I. Preparation and reactions of diaryliodonium oxides

AUTHOR(S): Baldwin, Roger A.; Washburn, Robert M.

CORPORATE SOURCE: Am. Potash Chem. Corp., Whittier, CA

SOURCE: Inorganic Chemistry (1965), 30(13), 3860-6

CONTRIB: COGEN; JOCKEY 1889; 0023-336X

DOCUMENT TYPE: Journal Article

LANGUAGE: English

AB A series of new diaryliodonium oxides, Ar<sub>2</sub>IO(OH)<sub>2</sub>, having surprising thermal stability and reactivity is described. Reaction of diaryliodonium oxides with tertiary phosphines provides a new series of complex, the bis(diaryliodonium)liminophosphoranes, Ar<sub>2</sub>IO(OH)<sub>2</sub>P, some of which have unusual properties and stabilities. The synthesis of several bis

tertiary phosphines is also described.

IT 4129-45-7, Phosphine oxide, 4,4'-biphenylbenzylidenebis[diphenyl-

Ph3P(OH)2] (CA INDEX NAME)

(preparation of)

IN 4129-45-7 CAPLUS

CH Phosphine oxide, 1,1'-(1,1'-biphenyl)-4,4'-dibis[1,1-diphenyl-

(CA INDEX NAME)

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FILE 'REGISTRY' ENTERED AT 12:55:50 ON 25 MAR 2010

L1 6 REGISTRY UPLOADED

L2 6 RER FILE=REGISTRY RER PUL L1

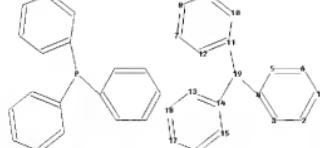
FILE 'CAPLUS' ENTERED AT 13:54:14 ON 25 MAR 2010

L3 19 SEA FILE=CAPLUS SPECIFIC ARBON FLUON L2

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chain nodes : 19

ring nodes : 1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

chain bonds : 1

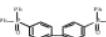
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-

15-16 16-17 17-18

exact bonds : 4-5 11-12 16-18

normalized bonds :

INDEX NAME)



00 CITING REF COUNT: 7 INDEX NAME ? CAPLUS RECORDS THAT CITE THIS RECORD (7 CITIMOS)

L3 ANTHONY 12 OF 12 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 1963:11961 CAPLUS Full-text

DOCUMENT NUMBER: 591784

ORIGINAL REFERENCE NO.: 58:10396e-q

TITLE: Research and development of high-temperature-stable organometallic phosphorus compounds

AUTHOR(S): Baranowska, Charles F.; Carlson, Richard D.; Martin, Edward K.; Lissack, Robert S.

CORPORATE SOURCE: Battelle Seattle Research Center, Seattle, WA

UNITED STATES DEPARTMENT OF COMMERCE, OFFICE OF

TECHNICAL SERVICES, FS Report (1963), AD 26,091, 174

FSR

DOI: 10.2172/10396e

CODEN: EXTRAL ISSN: 0059-8567

JOURNAL: Available

AB A series of alkylene- and arylenebridged phosphines and the corresponding phosphine oxides were prepared by a wide range of chemical and physical methods. Thermal treatment by a weight loss and chemical change technique was carried out at 300-450° in N<sub>2</sub>. The arylenebridged phosphines and biphenylphosphine oxide were found to be the most stable alkylene bridges. The aromatic series appears to begin change by losing ring H with subsequent ring condensation. The thermal stability of the arylenebridged phosphines is higher than that of P-H and products derived therefrom. A thermal study of simple arylphosphines and arylphosphine oxides and sulfides yielded some clues to decapsulation mechanisms. 321 references

IT 4129-45-7, Phosphine oxide, 4,4'-biphenylbenzylidene(diphenyl-

Ph3P(OH)2] (CA INDEX NAME)

IN 4129-45-7 CAPLUS

CH Phosphine oxide, 1,1'-(1,1'-biphenyl)-4,4'-dibis[1,1-diphenyl-

(CA INDEX NAME)



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1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-

15-16 16-17 17-18

Match Level: 1  
1Atom 2Atom 3Atom 4Atom 5Atom 6Atom 7Atom 8Atom 9Atom 10Atom  
11Atom 12Atom 13Atom 14Atom 15Atom 16Atom 17Atom 18Atom 19Atom

11:CLASS

L1 STRUCTURE UPLOADED

>> L1 smc full  
FULL SEARCH INITIATED 15:49:17 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 345748 TO ITERATE

100.04 PROCESSED 345748 ITERATIONS 194135 ANSWERS

L2 194135 SEA SMC FUL L1

>> file caplus

>> x 12

L3 119533 L2

>> 13 and [electroluminescence or electroluminescence or (light emitting) or OLED]

93247 ELECTROLUMINESCENCE

93247 ELECTROLUMINESCENCE

93247 ELECTROLUMINESCENCE

27055 ELECTROLUMINESCENCE

30 ELECTROLUMINESCENCES

27060 ELECTROLUMINESCENCE

27061 ELECTROLUMINESCENCE

(EL) EMISSION

1358531 LIGHT

(LIGHT OR LIGHTS)

144650 EMISSION

234 EMISSIONS

144652 EMISSION

EMITTING OR EMISSING

79318 LIGHT EMITTING

(LIGHT)(W)EMITTING

7825 LIGHT

3875 LIGHTS

9790 LIGHT

(LIGHT) (OR) (LIGHT)

L4 1293 LAM AND (ELECTROLUMINESCENCE OR ELECTROLUMINESCENCE OR (LIGHT EMITTING OR OLED))

>> 14 and (electron transporting) or (electron injecting) or (electron transport)

or (electron emitting)

1603322 ELECTION

206310 ELECTRONS

1639532 ELECTRON  
SELECTRON OR ELECTRONS)  
60794 TRANSPORTING  
4072 ELECTRON TRANSPORTING  
1623922 ELECTRON  
296110 ELECTRON  
1639532 ELECTRON  
54954 INJECTING  
34954 INJECTION  
34954 INJECTION  
(TRANSPORT OR TRANSPORTING)  
395 ELECTRON INJECTING  
(ELECTRON)(INJECTING)

1623922 ELECTRON  
296110 ELECTRON  
1639532 ELECTRON  
(TRANSPORT OR TRANSPORTING)

870402 TRANSPORT  
7832 TRANSPORT  
813909 TRANSPORT  
(TRANSPORT OR TRANSPORTING)

52075 ELECTRON TRANSPORT  
1623922 ELECTRON  
296110 ELECTRON  
1639532 ELECTRON  
(TRANSPORT OR TRANSPORTING)

596409 INJECTION  
143576 INJECTION  
631177 INJECTION  
(INJECTING OR INJECTION)

6068 SELECTIVE INJECTION  
(ELECTRON)(INJECTION)

L5 237 L4 AND (ELECTRON TRANSPORTING OR (ELECTRON INJECTING) OR (ELECTRON TRANSPORT) OR (ELECTRON INJECTION))  
-> L5 AND (PCT/2005 OR A1/2005)  
5213586 PCT/2005  
5152603 A1/2005  
L6 109 LS AND IFT/2005 OR A1/2005)  
-> 109 LS AND IFT/2005 OR A1/2005)

YOU HAVE REQUESTED DATA FROM 109 ANSWERS - CONTINUE? Y/N/Y

LS ANSWER 1 OF 109 CAPTION COPYRIGHT 2010 ACS ON STM  
ACCESSION NUMBER: 20051077993 CAPTION FULLTEXT  
DOCUMENT NUMBER: 1431376222  
TITLE: Organic light-emitting diode  
containing a novel Ir complex as a phosphorescent  
emitter  
INVENTOR(S): Cheng, Chien-Hung; Hsu, Jui-Pei; Rayshapuri, Dinesh  
Kumar; Jennifer, Betty Marie  
PATENT ASSIGNEE(S): Taiwan Semiconductor Manufacturing Co., Ltd.  
SOURCE: U.S. Pat. Appl. Publ., 25 pp.  
COPEN: 09000  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 200502237109	A1	20051013	US 2004-822647	20040413 <<
US 7320834	B2	20060122		
TW 323704	B	20050511	TW 2003-92126288	20030724 <<
DE 10200401132	DE	20050123	DE 102004-55376	20040716 <<
BR 053701	BR	20060825		

PRIORITY APPLN. INFO.:  
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LONG ELEMENTS FORMAT  
OTHER SOURCE(S): MARPAT 143:376222  
GI



AI Organic light-emitting diodes are described which employ an electron-accepting molecule represented by the general formula I or II. X = a monoanionic bidentate ligand; Z = an atomic moiety capable of forming a nitrogen-containing heterocyclic group R1 = N, halo, Cl-6 alkyl, Cl-6 alkenyl, Cl-6 alkynyl, Cl-6 aryl, Cl-6 aralkyl, Cl-6 arylidene, and aryl; m = 0 or any pos. integer determined by the ring size of the nitrogen-containing heterocyclic groups R2 and R3 = independently selected R, halo, Cl-6 alkyl, Cl-6 alkenyl, Cl-6 alkynyl, Cl-6 aryl, Cl-6 aralkyl, Cl-6 arylidene, Cl-6 alkyl, amino, aryl, and heterocyclic aryl.

IT 473646-1 CAPTION FULLTEXT  
RU PCT (Reactant) / REACT Reactant or reagent  
(organic light-emitting diodes employing iridium  
complexes as phosphorescent emitters)

EN 603-3-5 CAPTION FULLTEXT  
CN Phosphine, triphenyl- (CA INDEX NAME)



ES 2387615-1 CAPTION FULLTEXT  
RU PCT (Reactant), 2EW (Synthetic preparation); FRAZ (Preparation); RU CT (Reactant or reagent)  
(organic 1,1-diphenyl-1-phenylidene dienes employing iridium  
complexes as phosphorescent emitters)  
EN 473646-1 Capton

GB Phosphonium, methyltriphenyl-, iodide (1:1) (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LS ANSWER 5 OF 109 CAPTION COPYRIGHT 2010 ACS ON STM  
ACCESSION NUMBER: 20051077993 CAPTION FULLTEXT  
DOCUMENT NUMBER: 1431376190  
TITLE: Organic light-emitting device  
INVENTOR(S): Matsuda, Toshiyuki; Ohara, Shunji  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn Kokai Tokkyo Koho, 15 pp.  
COPEN: 09000  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 20050223920	A	20050203	JP 2004-93510	20040326 <<

PRIORITY APPLN. INFO.: A 20050203 JP 2004-93510 20040326  
RE: The invention relates to an organic light-emitting device comprising a 1,0,8-tris(4-phenylphenyl)-4,4,4,4-tetrakis(4-phenylphenyl)cyclohexadiene polymer, typically carbazole-skeleton-containing polymer, that has the hole mobility &gt; 10<sup>-6</sup> cm<sup>2</sup>V<sup>-1</sup>s<sup>-1</sup> at the electric field strength &gt; 10<sup>5</sup> V/cm<sup>2</sup> and the electron mobility &gt; 10<sup>-5</sup> cm<sup>2</sup>V<sup>-1</sup>s<sup>-1</sup>. Furthermore, the light-emitting layer may contain the r<sub>x</sub>-r<sub>y</sub>-r<sub>z</sub>-r<sub>t</sub>-r<sub>u</sub>-r<sub>v</sub>-r<sub>w</sub>-r<sub>x</sub>-r<sub>y</sub>-r<sub>z</sub>-r<sub>t</sub>-r<sub>u</sub>-r<sub>v</sub>-r<sub>w</sub> material having the lowest excited triplet state in 201-314 nm/wl.

IT 473646-1 CAPTION FULLTEXT  
RU PCT (Reactant) / REACT Reactant or reagent  
(organic light-emitting device)

ES 1779433-1 CAPTION FULLTEXT  
CN Phosphonium, methyltriphenyl-, bromide (1:1) (CA INDEX NAME)

LS ANSWER 3 OF 109 CAPTION COPYRIGHT 2010 ACS ON STM

ACCESSION NUMBER:	DOCUMENT NUMBER:	DATE	GENERAL FORMULA:	DATE
20051077993	1431376190	2005-07-18	I	20050404 <<

RU Fluorescent-based compound and organic electroluminescent display device using the same

INVENTOR(S): Wang, Seok-Won; Lee, Seok-Jong; Kim, Young-Sook;  
Yang, Sung-Duk; Kim, Hee-Yeon

PATENT ASSIGNEE(S): S. Korea

SOURCE: U.S. Pat. Appl. Publ., 31 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 200502231124	A1	20051006	US 2005-97182	20050404 <<
US 200502231125	A1	20051006	US 2005-97183	20050404 <<
JP 2005290000	A	20051020	JP 2005-106551	20050401 <<
JP 4374511	B2	20051021		
US 1126200	US	20051130	US 2005-1009765	20050401 <<
US 200502231503	A1	20051004	US 2005-1009769	20050401 <<

PRIORITY APPLN. INFO.: I

ES 2387615-1 CAPTION FULLTEXT  
RU PCT (Reactant), 2EW (Synthetic preparation); FRAZ (Preparation); RU CT (Reactant or reagent)

(organic 1,1-diphenyl-1-phenylidene dienes employing iridium  
complexes as phosphorescent emitters)

EN 473646-1 Capton

GB 2387615-1 CAPTION FULLTEXT  
CN Phosphine, triphenyl- (CA INDEX NAME)

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RU PCT (Reactant) / REACT Reactant or reagent  
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EN 473646-1 Capton

GB 2387615-1 CAPTION FULLTEXT  
CN Phosphine, triphenyl- (CA INDEX NAME)

IT 473646-1 CAPTION FULLTEXT  
RU PCT (Reactant) / REACT Reactant or reagent  
(organic light-emitting diodes employing iridium  
complexes as phosphorescent emitters)

ES 2387615-1 CAPTION FULLTEXT  
RU PCT (Reactant), 2EW (Synthetic preparation); FRAZ (Preparation); RU CT (Reactant or reagent)

(organic 1,1-diphenyl-1-phenylidene dienes employing iridium  
complex





C<sub>60</sub>-Ph<sub>3</sub>-C<sub>60</sub> diodes based on (Bn + Et) complexes  
 AUTHOR(S): Reyes, R.; Cremene, M.; Teotonio, S. S. R.; Brito, H.; P.; Malta, O. L.  
 CORPORATE SOURCE: Universidade Católica do Rio de Janeiro, Rio de Janeiro, CEP 22453-970, Brazil  
 SOURCE: Thin Solid Films, 370(2002) 485-490, 59-64  
 PUBLISHER: Elsevier B V  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 AB In this work, we reported the preparation and the characterization of triple-layered organic devices using different blends of the smectic and eupompe complexe complexes [Bn(CyDPA)<sub>2</sub>] ( $\alpha = 0.7$ ,  $0.9$ ,  $y = 0.3$ ,  $0.1$ ) as emitting layer. The organic light-emitting diode (OLED) device was composed of ITO/PEDOT/polymer:Smectic/Eupompe/carboxyaldehyde-2,1'-diphenylbenzene (MDCB) as hole-transporting layer and tri(n-hydroxyphenyl) aluminum (AlN) as electron-transporting layer. The smectic and eupompe phases are associated with a broad band attributed to the near-electroabsorption (NEA) from the triplet-singlet (T-T=0) transition from the smectic and eupompe phases. The application of the high voltage applied to the OLED and this fact, together with the ligand substitution, allows fabrication of color-tunable color light emitting diodes.

17 JP2001-314201 Triphenylphosphine oxide  
 EEL DEV Device component used (Emitting); USE (Emis)  
 Luminescent phosphorescence emission in organic light-emitting diodes based on (BnEt)<sub>2</sub> complexe

20 792-2008 CARLOS  
 23 Phosphorus oxide, triphenyl- (CA INDEX NAME)



08 CITING PAT COUNT: 0 THERE ARE 0 CARLOS RECORDS THAT CITE THIS RECORD  
 (0 CITINGS)  
 REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT  
 16 NUMBER 10 OF 109 CARLOS COPYRIGHT 2010 ACS ON STM  
 ACCESSION NUMBER: 200427932121 CARLOS Full-text  
 DOCUMENT NUMBER: 12141313405  
 TITLE: Poly[2,7-(9,9-dimethylfluorene)-alt-pyridine] with alternating units of 2,7-(9,9-dimethylfluorene)-alt-pyridine and 2,7-(9,9-dimethylfluorene)-alt-pyridine  
 AUTHOR(S): Li, Ming; Peng, Chen, Hardy S. G.; Ng, Sia-Choon  
 CORPORATE SOURCE: Department of Chemistry, National University of Singapore, 119260, Singapore  
 SOURCE: Journal of Polymer Science: Part A: Polymer Chemistry, 48(13), 4792-4801

JP 2004253298 A 20040909 JP 2003-43860 20030223 -->  
 JP 2005055051 A 20050112 JP 2005-262504 20050109  
 PRIORITY ATTRIB.: INFO: MARPAT 141:268179 AS 20030223  
 OTHER SOURCE(S): 02



AB The devices have, in their constituent layers (e.g., emitting layers, hole- or electron-transporting layers), (i) compounds, represented by X1(X2)C2X2 (X1, X2 = aromatic group, e.g., phenyl, naphthyl, biphenyl, etc.; X3 = monovalent substituent, e.g., R2 = aryl), R12R2R3R4R5R6R7 (R1-R5 = monovalent substituent), Ar-C(=O)-Ar' (Ar = bivalent aromatic hydrocarbylene); and (ii) compounds, represented by X1(X2)C2X2 (X1, X2 = aromatic group, e.g., phenyl, (cyclo)alkyl, alkoy, or halo), R12R2R3R4R5R6R7 (R1 = (methoxy) o-(2-phenyl)phenyl, etc.; R2 = (2-phenyl)phenyl, etc.; R3 = (2-phenyl)phenyl, etc.; R4 = (2-phenyl)phenyl, etc.; R5 = (2-phenyl)phenyl, etc.; R6 = (2-phenyl)phenyl, etc.; R7 = (2-phenyl)phenyl, etc.), with mol. weight 500-2000 and atomic ratio F'/F = H:O > 0.9 and having fluorescent peak at 420 nm, (iii) poly[2,7-(9,9-dimethylfluorene)-alt-pyridine], (iv) compounds, aromatic group, R3 = alkyl, aromatic group, R3 = aryl, (v) compounds, aromatic group, R3 = alkyl, aromatic group, R3 = aryl, and/or (vi) fluorescent compounds satisfying atomic ratio N/C > 0.9. The devices, having phosphorescent properties, are particularly useful in light-emitting diodes, 3-substituted aromatic ring, aniline, M = metal), II (M1, M2 = aromatic aniline, M = metal) in emitting layers, are characterized by having high luminescent efficiency and substantially white emission, and are suited for light source uses, especially of LED.

22 JP 2004-314201 (2004-03-0) C04A4/42-3  
 C07C42/04-0 C07C42/04-0 C07C42/04-0  
 C07C42/04-0 C07C42/04-0 C07C42/04-0  
 EEL DEV (Device component used); USE (Emis)  
 (luminescent phosphorescent organic light-emitting diodes and showing high luminous efficiency)

23 32324-41-3 CARLOS  
 Phosphorus, pentakis([1,1'-biphenyl]-4'-yl)- (SC1) (CA INDEX NAME)

CODER: JPACEUS; ISSN: 0888-624X  
 PUBLISHER: John Wiley & Sons, Inc.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A novel series of alternating alternating poly[2,7-(9,9-dimethylfluorene)-alt-pyridinyl] (PDMFP) with donor-acceptor repeat units were synthesized in good high yield using palladium (0)-catalyzed Suzuki cross-coupling reaction. 2,7-(9,9-dimethylfluorene)-alt-pyridinyl (MDCP) and 2,7-(9,9-dimethylfluorene) was used as the 1,4-phenylene unit and the electron deficient pyridinyl unit was used to provide improved electrophilic properties. These polymers were characterized by FTIR, NMR, GPC, TGA, elemental analysis, thermal analysis, and UV-visible and fluorescence spectroscopy. The glass transition temperature of copolymer in nitrogen ranged from 110° to 140° and the thermal stability of the polymers was evaluated by decomposition temperature in the range of 350° to 390° in air. The difference in linkage of the pyridinyl unit in the polymers had significant effect on the electrical and optical properties of the polymers in solution and in film phases. Metac-linkage (3,5- and 2,6-linkage) of pyridinyl units in the polymers was found to be favorable for pair wise emission and prevention of aggregation of polymer chains due to the para linkage (2,1-linkage) of the pyridinyl units.

17 JP 2004-314201 (2004-03-0) C04A4/42-3  
 EEL DEV (Device component used); USE (Emis)  
 (luminescent phosphorescent organic light-emitting diodes and showing high luminous efficiency)

20 14221-01-3 CARLOS

23 Palladium, tetrakis[tricyanophosphine]-, (TCA)- (CA INDEX NAME)

PPA1  
 PPB1-PBP1-PPA1  
 PPA2

08 CITING REF COUNT: 19 THERE ARE 19 CARLOS RECORDS THAT CITE THIS RECORD (0 CITINGS).  
 REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

16 NUMBER 11 OF 109 CARLOS COPYRIGHT 2010 ACS ON STM  
 ACCESION NUMBER: 200427932121 CARLOS Full-text  
 DOCUMENT NUMBER: 1414261379

TITLE: Long-life white-emitting organic light-emitting device, display, illumination apparatus, and electric appliances therewith

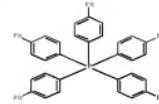
INVENTOR(S): Fukuda, Naohiro; Yamashita, Genta; Endo, Kenichi; Minolla Holdings, Inc.; ...; Japan Patent Office, Tokyo, Japan

SOURCE: US 2004-03-02

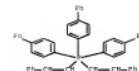
DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 PRIORITY INC. REC. NUM. COUNT: 1  
 PRIORITY INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

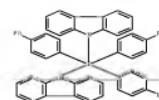
020630-42-4 CARLOS (CA INDEX NAME)



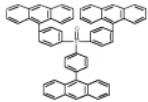
RE 020630-42-4 CARLOS  
 Phosphorus, pentakis([1,1'-biphenyl]-4'-yl)-bis(2-phenylhexa- (CA INDEX NAME)



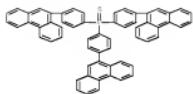
RE 020630-43-5 CARLOS  
 9H-Carbazole, 9,9'-[tris([1,1'-biphenyl]-4'-yl)phosphorylanlidene]bis- (CA INDEX NAME)



RE 020630-45-7 CARLOS  
 Phosphorus oxide, triis(4-(9-anthracenyl)phenyl)- (CA INDEX NAME)



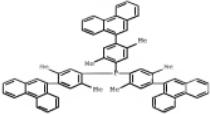
66 620630-66-8 CAPLUS  
Phosphonium salt, tri(9-(9-phenanthrenyl)phenyl)- (CA INDEX NAME)



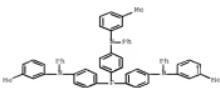
56 620630-56-2 CAPLUS  
1,10-Phenanthroline, 5,5',5'''-(phosphinidynetri-4,1-phenylene)tris- (PCP)  
(CA INDEX NAME)



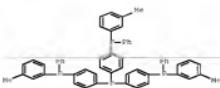
57 620630-57-1 CAPLUS  
Phosphine, tri[2-(dimethyl-4-(9-phenanthrenyl)phenyl)- (CA INDEX NAME)



58 620630-58-3 CAPLUS  
Benzene, 4,4',4'''-phosphinidynetris(9-(9-phenyl)phenyl)- (PCP)  
(CA INDEX NAME)



59 620630-59-3 CAPLUS  
Phosphine, tri[4-(3-methylphenyl)phenyl]phosphinophenyl)-  
(CA INDEX NAME)



61 620630-61-7 CAPLUS  
Phosphine, [1,1'-biphenyl]-4,4'-diylbis(1-naphthalenylphenyl)- (PCP) (CA INDEX NAME)



12 51044-13-6 4-Bromophenyltrifluoromethylphosphonium bromide  
4-Bromophenyltrifluoromethylphosphonium bromide  
Ru(RCT (Reactant), PACT (Reactant or reagent))  
(long-life white-emitting organic LED containing styryllo phosphorescent materials showing high luminescent efficiency)

55 51044-13-6 CAPLUS  
Phosphonium, [(4-bromophenyl)methyl]triphenyl-, bromide (1:1) (CA INDEX NAME)



66 85902-10-6 CAPLUS  
Phosphonium, [(3-bromophenyl)methyl]triphenyl-, bromide (1:1) (CA INDEX NAME)



OS CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD  
10 CITING RECORDS

16 AMNER 12 OF 109 CAPLUS COPYRIGHT 2010 ACS, en STN  
2004234408 CAPLUS Full-text  
DOCUMENT NUMBER: 10-33200-109

Title: Synthesis and characterization of new light-emitting organic polymer materials for light-emitting device application

Author(s): Wu, Sheng-Hsi; Shen, Chi-Mei; Chen, Jui-Bung; Wu, Chia-Chang; Huang, Chih-Chiang

Corporate Source: Department of Chemical Engineering, National Chung Cheng University, Chia-Yi, 622, Taiwan  
Source: Journal of Polymer Science: Part A: Polymer Chemistry

Volume: 42(16); 3994-3998  
CODEN: JPACAK  
ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.  
DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of thiophene-containing photoactive copolymers consisting of alternating conjugated and nonconjugated sequences were synthesized. The IR spectra corroborated the well-defined structures, and the copolymers not only exhibited well-defined absorption bands but also had high glass-transition temps. ( $\approx$  130°) and good thermal stability up to 330°. Introducing aliphatic functional groups such as alkyl or alkoxy, into thiophene units can effectively reduce the optical bandgaps and lowered the optical bandgaps. The electronic bandgaps calculated from optical measurements agreed with the optical bandgaps. The results show that  $\pi$ -conjugated polymers phosphenes originated from the same excited state. The energy levels (HOMO and LUMO) of all the copolymers were lower than those of the pure thiophene polymer. The HOMO values were -5.05 eV, and the LUMO values were -3.20 eV, respectively. The  $\Phi_{PL}$  was 0.45, 0.48, and 0.50, respectively. The  $\Phi_{PL}$  of the polymeric 1,1'-biphenyl-4,4'-diylbis(1-naphthalenylphenyl)phosphonium bromide (51044-13-6) was 0.48, which led to improved performance in both single-layer and double-layer polymeric light-emitting diodes. The electroluminescence color of the polymeric 1,1'-biphenyl-4,4'-diylbis(1-naphthalenylphenyl)phosphonium bromide (51044-13-6) was bluish-green or green above the threshold bias of 5.0 V under ambient conditions. At the maximum bias of 10 V, the  $\Phi_{PL}$  was 0.48, which was a device made of the polymeric 1,1'-biphenyl-4,4'-diylbis(1-naphthalenylphenyl)phosphonium bromide (51044-13-6). The external  $\Phi_{PL}$  was 0.06, which was a device made of the polymeric 1,1'-biphenyl-4,4'-diylbis(1-naphthalenylphenyl)phosphonium bromide (51044-13-6).

II T1020-60-60 CAPLUS  
Ru(RCT (Reactant), PEP (Synthetic preparation); PREF (Preparation); PACT (Reactant or reagent))  
(monomer) preparation and polymerization of diphenylthiophene and dibenzothiophene monomers

CM 10-33200-109 CAPLUS  
Thiophene, [2,5-bis(4,1-phenylene)ethoxy]bis(triphenylphosphonium) dithiocarbonate (PCP) (CA INDEX NAME)



$\bullet$  Br<sup>-</sup>

II T1020-60-60 CAPLUS  
Ru(RCT (Reactant), PEP (Synthetic preparation); PREF (Preparation); PACT (Reactant or reagent))  
(monomer) preparation and characterization of thiophene-containing photoactive copolymers in polymeric light-emitting-diode device fabrications

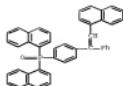
II T1020-60-60 CAPLUS  
Thiophene, [2,5-bis(4,1-phenylene)ethoxy]bis(triphenylphosphonium) dithiocarbonate, polymer (PCP) (CA INDEX NAME)

CM 1

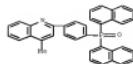


(Technical or engineered material use); PMG (Preparation); USES (Uses)  
layered-emissive layers; high-luminance EL devices containing phosphine  
oxide derivs. in  $\pi$ -conjugate layers

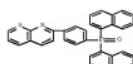
BR 724755-79-7 CAPLOS  
CA 2-(1,1-Phenanthroline, 2-[4-(di-1-naphthalenylphosphinyl)phenyl]- (CA INDEX  
NAME)



BR 724755-83-3 CAPLOS  
CH Quinoline, 2-[4-(di-1-naphthalenylphosphinyl)phenyl]-4-methyl- (CA INDEX  
NAME)

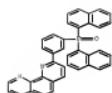


BR 724755-84-4 CAPLOS  
CH 1,8-Naphthyridine, 2-[4-(di-1-naphthalenylphosphinyl)phenyl]- (CA INDEX  
NAME)



BR 724755-85-5 CAPLOS  
CH 2,2'-Bipyridine, 6-[4-(di-1-naphthalenylphosphinyl)phenyl]-4-phenyl- (CA  
INDEX NAME)

(NAME)



IT 0959517-1  
RU 2C7 (Reactant); BACT (Reactant or component)  
(high-luminance EL devices containing phosphine oxide derivs. in  
 $\pi$ -conjugate layers)

BR 939513-10-1 CAPLOS

CH Phosphine oxide, di-1-naphthalenylphenyl- (CA INDEX NAME)



US CITING PEP COUNT: 1 THERE ARE 1 CAPLOS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

LG NUMBER 15 OF 109 CAPLOS COPIRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 20041554678 CAPLOS Full-Text  
DOCUMENT NUMBER: 1411131062  
TITLE: High-luminance oxadiazole as electron transporters for  
organic electroluminescent devices showing  
good durability and high luminance intensity  
by using phosphine oxide, di-1-naphthalenylphenyl-

TAKEUCHI, Takeshi; TANAKA, Toshiyuki; KOBAYASHI, Toshiaki; SHIBATA, Naoto

TOYO INDUSTRIES, Inc., Japan

09-09-2004 Tokai Tokyo, 17 pp.

CODE#: JPOXML

TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

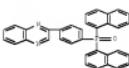
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004203928	A	20040722	JP 2002-376975	20021126 <--

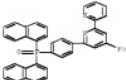
PRIORITY APPLN. IMPD.: JP 2002-376975 200201226

BR 724755-86-6 CAPLOS  
ELI DEV (Device component used); TEM (Technical or engineered material)  
layered-emissive layers; high-luminance EL devices containing phosphine  
oxide derivs. in  $\pi$ -conjugate layers

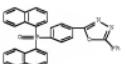
CA 2-(1,1-Phenanthroline, 2-[4-(di-1-naphthalenylphosphinyl)phenyl]- (CA INDEX NAME)



BR 724755-86-2 CAPLOS  
Phosphine oxide, di-1-naphthalenyl[4-(2-(1-naphthalenyl)-1-  
phenylethoxy]phenyl]- (CA INDEX NAME)



BR 724755-86-6 CAPLOS  
CH 1,3,4-Triadiazole, 2-[4-(di-1-naphthalenylphosphinyl)phenyl]-5-pyridyl- (CA  
INDEX NAME)



BR 724755-87-7 CAPLOS  
ELI DEV (Device component used); TEM (Technical or engineered material)  
layered-emissive layers; high-luminance EL  
devices containing phosphine oxide derivs. in  $\pi$ -conjugate  
layers

CA 2-(1,1-Phenanthroline, 2-[4-(di-1-naphthalenylphosphinyl)phenyl]- (CA INDEX NAME)



IT 0959517-1  
RU 2C7 (Reactant); BACT (Reactant or component)  
(high-luminance EL devices containing phosphine oxide derivs. in  
 $\pi$ -conjugate layers)

BR 724755-89-1 CAPLOS

CA 1,2-Diphenylbenzene, 2-[3-(di-1-naphthalenylphosphinyl)phenyl]- (CA INDEX NAME)



propensity for side-stacking varies among them. The oxaiazole-containing compounds show promise for applications in single-layer LEDs.

17 5,5'-{4,4'-[2-(4-phenylphenyl)-4-phenyl]biphenyl}-4,4'-biphenyl  
ELI RCT (Reactant or reagent); RACT (Reactant or reagent);  
The disclosure describes optical properties of two-dimensional  
phenylene oligomers with four-arm phenol units for LED's

RE 6163-58-2 CAPLUS  
CM Phosphorus, tri(is-2-methylphenyl)- (CA INDEX NAME)



18 CITING REF COUNT: 28 THERE ARE 28 CAPLUS RECORDS THAT CITE THIS  
REFERENCE COUNT: RECORD (28 CITINGS)  
49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

19 ANSWER 19 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319833 CAPLUS Full-text

DOCUMENT NUMBER: 141154121

TITLE: Evaluation of efficiency in luminescent polymer by incorporation of conjugated 1,3,4-oxadiazole side chains as hole-blocker/electron-transporter

AUTHOR(S): Hahn, Sung-Jae; Kim, Hyun-Jin; Cho, Kyung-Hwan

CORPORATE SOURCE: Department of Chemistry, Sogang University, Seoul, 151-742, S. Korea

SOURCE: Synthetic Metab (2004), 14(1), 13-19

PUBLISHER: Cognex Science ISSN: 0379-0779

DOCUMENT TYPE: Article

LANGUAGE: English

AB A novel luminescent polymer [poly(1-methoxy-5-[4-(4'-4"-maphenyl)-5'-phenyl]-1',4'-4"-oxadiazole-4-phenyl)-1,4-phenylenevinylene-alt-2,5-bis(methoxy)-1,4-phenylenevinylene] (MOPDXA) was synthesized by the Wittig reaction between 4-(4'-4"-oxadiazole-4-phenyl)-1,4-phenylenevinylene and phenylmagnesium bromide. The band gap figure out from the UV-VIS spectra and photoluminescence spectra of MOPDXA is 2.12 eV and 500 nm. The maximum of UV-VIS absorption and emission are located at 390 nm and 450 nm, respectively. The PL spectrum of MOPDXA appeared at 556 nm, which is similar to that of MEA-PPV (563 nm). In PL and EL spectra, emission from OXD pendants was not observed. Single crystal XRD analysis revealed that the unit cell of MOPDXA has a density of 0.24 g at 3.3 K/mmol, which is significantly higher than that of MEA-PPV (0.204 g at 3.4 K/mmol) measured under the same conditions. The HOMO and LUMO energy levels of MOPDXA were measured to be 5.20 and 2.70 eV, respectively. The absorption and emission wavelengths of the PL spectrum are -4.96 and -2.88 eV, resp., which are similar to those of MEA-PPV (-4.95 and -2.87 eV, resp.). The LUMO energy level is significant lower than those of the main chain. These results suggest that

OXD units do not affect the emission maxima of the main chain compared with MEA-PPV. The OXD pendant blocks the injected holes from the anode and enhance the electron transporting property

20 ANSWER 20 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319834 CAPLUS Full-text  
DOCUMENT NUMBER: 141154122  
TITLE: Preparation of luminescent poly(phenylenevinylene) polymer by incorporation of conjugated 1,3,4-oxadiazole side chains as hole-blocker/electron-transporter

CM Phosphorus, tri(is-2-methylphenyl)-[6-(4-(5-phenyl-1,3,4-oxadiazole-2-yl)phenyl)benzyl]methyl-1,4-phenylenebis(methylene)bis(triphenyl-phosphine) dichloride (9C1) (CA INDEX NAME)



● Cl-

21 ANSWER 21 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319835 CAPLUS Full-text

DOCUMENT NUMBER: 141154123

TITLE: Preparation of luminescent poly(phenylenevinylene) polymer by incorporation of conjugated oxadiazole side chains as hole-blocker/electron-transporter

CM Phosphorus, tri(is-2-methylphenyl)-[6-(4-(5-phenyl-1,3,4-oxadiazole-2-yl)phenyl)benzyl]methyl-1,4-phenylenebis(methylene)bis(triphenyl-phosphine) dichloride (9C1) (CA INDEX NAME)

CM 1

CMR 102359-59-9

CMW C65 H60 N2 O4 P2 . 2 Cl



● Cl-

CM 2

CMR 123415-45-2

CMW C32 H54 O4

22 ANSWER 22 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319836 CAPLUS Full-text

DOCUMENT NUMBER: 141154124

TITLE: Organic poly(1,4-phenylenevinylene) compds. are described which comprise a charge transfer complex containing a vinylidene diamine, 21 mol/polymers emissive dopant, and 21 tertiary aromatic amine. Preferably, the tertiary amine has a hole mobility greater than about 0.001 cm<sup>2</sup>/v and an ionization potential less than about 5.5 eV. Methods of making the materials, including displays, employing the materials are also described. Methods of making organic electroluminescent devices which entail attaching the organic poly(1,4-phenylenevinylene) to a carrier substrate (e.g., plastic) device sheets suitable for the process are also described.

23 ANSWER 23 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319837 CAPLUS Full-text  
DOCUMENT NUMBER: 141154125  
TITLE: Organic poly(1,4-phenylenevinylene) compds. comprising a vinylidene diamine, 21 mol/polymers emissive dopant, and 21 tertiary aromatic amine. Preferably, the tertiary amine has a hole mobility greater than about 0.001 cm<sup>2</sup>/v and an ionization potential less than about 5.5 eV. Methods of making the materials, including displays, employing the materials are also described. Methods of making organic electroluminescent devices which entail attaching the organic poly(1,4-phenylenevinylene) to a carrier substrate (e.g., plastic) device sheets suitable for the process are also described.

24 ANSWER 24 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319838 CAPLUS Full-text  
DOCUMENT NUMBER: 141154126  
TITLE: Organic poly(1,4-phenylenevinylene) compds. comprising a vinylidene diamine, 21 mol/polymers emissive dopant, and 21 tertiary aromatic amine. Preferably, the tertiary amine has a hole mobility greater than about 0.001 cm<sup>2</sup>/v and an ionization potential less than about 5.5 eV. Methods of making the materials, including displays, employing the materials are also described. Methods of making organic electroluminescent devices which entail attaching the organic poly(1,4-phenylenevinylene) to a carrier substrate (e.g., plastic) device sheets suitable for the process are also described.

25 ANSWER 25 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319839 CAPLUS Full-text  
DOCUMENT NUMBER: 141154127  
TITLE: Organic poly(1,4-phenylenevinylene) compds. comprising a vinylidene diamine, 21 mol/polymers emissive dopant, and 21 tertiary aromatic amine. Preferably, the tertiary amine has a hole mobility greater than about 0.001 cm<sup>2</sup>/v and an ionization potential less than about 5.5 eV. Methods of making the materials, including displays, employing the materials are also described. Methods of making organic electroluminescent devices which entail attaching the organic poly(1,4-phenylenevinylene) to a carrier substrate (e.g., plastic) device sheets suitable for the process are also described.

26 ANSWER 26 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319840 CAPLUS Full-text

DOCUMENT NUMBER: 141154128

TITLE: Organic poly(1,4-phenylenevinylene) compds. comprising a vinylidene diamine, 21 mol/polymers emissive dopant, and 21 tertiary aromatic amine. Preferably, the tertiary amine has a hole mobility greater than about 0.001 cm<sup>2</sup>/v and an ionization potential less than about 5.5 eV. Methods of making the materials, including displays, employing the materials are also described. Methods of making organic electroluminescent devices which entail attaching the organic poly(1,4-phenylenevinylene) to a carrier substrate (e.g., plastic) device sheets suitable for the process are also described.

27 ANSWER 27 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319841 CAPLUS Full-text

DOCUMENT NUMBER: 141154129

TITLE: Organic poly(1,4-phenylenevinylene) compds. comprising a vinylidene diamine, 21 mol/polymers emissive dopant, and 21 tertiary aromatic amine. Preferably, the tertiary amine has a hole mobility greater than about 0.001 cm<sup>2</sup>/v and an ionization potential less than about 5.5 eV. Methods of making the materials, including displays, employing the materials are also described. Methods of making organic electroluminescent devices which entail attaching the organic poly(1,4-phenylenevinylene) to a carrier substrate (e.g., plastic) device sheets suitable for the process are also described.

28 ANSWER 28 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 2004-319842 CAPLUS Full-text

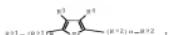
DOCUMENT NUMBER: 141154130

TITLE: Organic poly(1,4-phenylenevinylene) compds. comprising a vinylidene diamine, 21 mol/polymers emissive dopant, and 21 tertiary aromatic amine. Preferably, the tertiary amine has a hole mobility greater than about 0.001 cm<sup>2</sup>/v and an ionization potential less than about 5.5 eV. Methods of making the materials, including displays, employing the materials are also described. Methods of making organic electroluminescent devices which entail attaching the organic poly(1,4-phenylenevinylene) to a carrier substrate (e.g., plastic) device sheets suitable for the process are also described.









AB The electron-donating material is a silacyclopentadiene compound represented by I: R1-R4 = H, halo, alkyl, alkenyl, alkoxy, aryl, heteroaryl, or a 5- to 10-membered heterocyclic ring; n = 1-31. The polymer elements contain the electron-withdrawing material in a right-hand-side layer and the electron-donating material in a left-hand-side layer. The two kinds of the lone-pair-containing elements in an alternating fashion are side-chain linked. The lone-pair-containing elements emit light with uniform brightness for a long period of time.

IT "n-( $\lambda^4$ -C<sub>6</sub>H<sub>4</sub>)<sub>n</sub> Triphenylphosphine oxide"

RK IUPAC (Reactant); RCT (Reactant or reagent)  
 (Synthesis, characteristics and luminescence properties of  $\text{Sn}(\text{III})$  and  $\text{Fe}(\text{III})$  chelates for organic electroluminescent device applications)

RS 772-00-0 CASRN

CS Phosphine oxide, triphenyl- (CA INDEX NAME)

Fluorescent polymer



OS CITING REF COUNT: 15 THERE ARE 15 CITED RECORDS THAT CITE THIS RECORD (15 CITINGS)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITED REFERENCES AVAILABLE IN THE RE FORMAT

16 ANSWER 31 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM

ACCESSION NUMBER: 2003129076 CAPLUS Full-text

DOCUMENT NUMBER: 139171245 CAPLUS Full-text

TITLE: Blue-light-emissive materials containing electron-withdrawing material,  $\lambda^4$ -conjugated polymer element using it, and display device

INVENTOR(S): Matsuo, Mikihiko; Hata, Tetsuya; Sugura, Hisanori

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACQ. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2003226973 A 20030815 JP 2002-27071 20020206 <<

16 ANSWER 32 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM

ACCESSION NUMBER: 2003129076 CAPLUS Full-text

DOCUMENT NUMBER: 14019312 CAPLUS Full-text

TITLE: Synthesis, characteristics and luminescence properties of oligo(phenylenevinylene) dimers with a biphenyl linkage center

AUTHOR(S): He, Feng; Cheng, Gang; Zhang, Haiquan; Shen, Yan; Wang, Xiang; Tang, Ning; Hu, Yaqun; Liu, Shiyang; Shen, Jiacong

CORPORATE SOURCE: Key Laboratory for Supermolecular Structure and Material, Ministry of Education, Jilin University, Changchun, 130023, Fap. Rep. China

SOURCE: Chemical Communications (Cambridge, United Kingdom) | Cambridge, 2002-2003, No. 13, pp. 1359-1360

PUBLISHER: Royal Society of Chemistry

EDITION: English

ISSUE NUMBER: English

LANGUAGE: English

16 ANSWER 33 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM

ACCESSION NUMBER: 2003129076 CAPLUS Full-text

DOCUMENT NUMBER: 139171245 CAPLUS Full-text

TITLE: Highly Efficient Blue-Light-Emitting Copolymer with Bulky Non-Transporting Phenylaminophenylamine ( $\text{TPA}-\text{Ar}-\text{Ar}'-\text{TPA}$ ) and carbazole (CDI) pendant groups at the  $\text{C}^9$  position of fluorene was synthesized. The results from luminescence and electroluminescence reveal that both the side chains and the main chain have the same contribution to the luminescence in the copolymer. It shows a pure blue emission with no aggregates or excimers for even a small amount of TPA under a voltage of 20 V. It demonstrates improved charge injection and balanced charge transport in  $\text{N,N}$ -dimethylbenzylamine. The maximum external quantum efficiency of a single-layered device is 1.21% at 20 V. The electroluminescence brightness of 344 cd/m<sup>2</sup> with driving voltage of 20 V. The electroluminescence brightness of the device reaches 4080 cd/m<sup>2</sup> at a bias of 12.0 V and a  $\text{cd}$  of 640 mcd/

17 ANSWER 34 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM

ACCESSION NUMBER: 2003129076 CAPLUS Full-text

DOCUMENT NUMBER: 139171245 CAPLUS Full-text

TITLE: Fluorescent polymer containing palladium (II) catalyst using triphenylphosphine

RK CAT (catalyst used); GBR8 (free)

RS 14019312 CAPLUS Full-text

CH Palladium tetrakis(triphenylphosphine)-, (7-4) - (CA INDEX NAME)

Fluorescent polymer

OS CITING REF COUNT: 167 THERE ARE 167 CITED RECORDS THAT CITE THIS RECORD (163 CITINGS)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITED REFERENCES AVAILABLE IN THE RE FORMAT

16 ANSWER 34 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM

ACCESSION NUMBER: 2003129076 CAPLUS Full-text

DOCUMENT NUMBER: 139171245 CAPLUS Full-text

TITLE: Fluorescent lanthanide complexes with phosphine oxides, phosphine oxide-sulfides, pyridine N-oxides, and phosphine oxide-pryidine N-oxides, and thin film

INVENTOR(S): Grushin, Vladimir; Herce, Norbert; Petrov, Viacheslav Aleksandrovich; Radu, Boris Sabina; Wang, Ying

PATENT ASSIGNEE(S): U.S. Pat. Appl. Publ. No. 2002-139-pp

SOURCE: COOKR: 02002

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACQ. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

US 20020144847 A1 20020731 US 2002-185494 20020627 <<

US 20020144847 B1 20020731 CA 2449740 20020731 CA 2002-2449740 20020703 <<

WO 2003019168 A2 20030116 WO 2002-1021024 20020703 <<

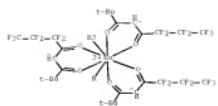
WO 2003019168 B1 20030116 WO 2002-1021024 20020703 <<

WFO: 2003019168 B1 20030116 WO 2002-1021024 20020

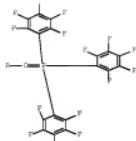




EP 569642-12-2 CAPILO  
CN Europium, tri(6,7,7,8,8,9,9-heptafluoro-2,2-dimethyl-1,3-octanedionato- $\kappa^2\text{O}^1\text{O}^2$ )bis(triphenylphosphine oxide- $\kappa^1$ )- (CA INDEX NAME)



EP 569642-11-1 CAPILO  
CN Europium, bis(2,2-diphenyl-3-(triphenylphosphoranylidene)phosphinic oxide- $\kappa^1$ )(tri(1,1,1,3,5,5,5-heptafluoro-2,4-pentanedionato- $\kappa^2\text{O}^1\text{O}^2$ )- (CA INDEX NAME)



$\text{**},\text{**}'$ bis(triphenylphosphine oxide- $\kappa^1$ )- (CII) (CA INDEX NAME)



IT 5,23,50,51,54,55  
RL DEV (Device component used); SPP (Synthetic preparation); PREP (Preparation); OME (Olefin); (Preparation and luminescence) photoactive lanthanide complex for use in electronic devices  
EP 569642-14-2 CAPILO  
CN Europium, tri(4,4,4-trifluoromethyl-2-thienyl)-1,3-butandionato- $\kappa^2\text{O}^1\text{O}^2$ )bis(triphenylphosphine oxide- $\kappa^1$ )- (CA INDEX NAME)



IT 5,23,50,51,54,55  
RL DEV (Device component used); SPP (Synthetic preparation); PREP (Preparation); OME (Olefin); (Preparation and luminescence) photoactive lanthanide complex for use in electronic devices  
EP 433034-11-1 CAPILO  
CN Europium, tri(1,1,1,3,5,5,5-heptafluoro-2,4-pentanedionato-





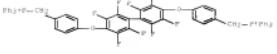










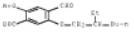


● Br-

ON 2

CBN 263321-22-3

CMF C17 H24 O4

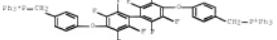


BB 35234-13-8 C6H5CO  
Triphenylphosphine, [(2,3,3,5,6,6,6-methoxybenzyl),2'-biphenyl]-4,4'-di(2-(biphenyl-4-ylmethoxybenzyl)bis[1-phenyl]-, dibromide, polymer with 9,9-dimethyl-9H-fluorene-3,7-dicarboxaldehyde (9CI) (CA INDEX NAME)

ON 1

CBN 35234-13-8

CMF C62 H42 Br O2 P2 - 2 Br

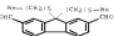


● Br-

ON 2

CBN 295795-57-5

CMF C27 H34 O2



IT 49-57-5- $\alpha_2$ , Triphenylphosphine, reactions

RLI RCT (Reactant); RAC (Reactant or reagent); (D) (2,3,3,5,6,6,6-methoxybenzyl)bis[1-phenyl]-, dibromide, polymer containing both hole and electron accepting units

BN 403-35-0 CMF(CN) Phosphine, triphenyl- (CA INDEX NAME)



IT 35234-13-8

RLI RCT (Reactant); SW (Synthetic preparation); PRED (Preparation); RAC (Reactant or reagent); (D) (2,3,3,5,6,6,6-methoxybenzyl)bis[1-phenyl]-, dibromide, polymer containing both hole and electron accepting units

BN 35234-13-3 CMF Phosphine, [(2,3,3,5,6,6,6-methoxybenzyl)-4,4'-di(biphenyl-4-ylmethoxybenzyl)bis[1-phenyl]-, dibromide (9CI) (CA INDEX NAME)



● Br-

08 CITING REF COUNT:

36 THERE ARE 36 CITED RECORDS THAT CITE THIS RECORD (37 CITERS)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LN NUMBER 55 OF 109 CAFOS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 2001164793 CAFOS-CAT-04-04-04

TITLE: Synthesis and characterization of side-chain polymeric organic semiconductor materials for organic semiconductor applications

AUTHOR(S): Dailey, Stuart; Peart, W. James; Pease, Richard J.J.; Seeger, Ian C.; Tillis, Stephen; Wood, David L.

CORPORATE SOURCE: EPFL, CH-1015 Lausanne, Switzerland  
SOURCE: Journal of Materials Chemistry (2007), 11(9), 2235-2241  
CROSSREF: DOI: 10.1039/B60944B  
PUBLISHER: Royal Society of Chemistry  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Improved syntheses and polymers are reported of monomers bearing various electron accepting substituents based on 2,5-diphenyloxadiazole and 2,3-diphenylquinoxaline. The new monomers show high solubility and by use of mixtures of homopolymers, these materials have been incorporated into poly(ether ether ketone) (PEEK) hole injection properties are provided by 4-(triphenylphosphine groups). High luminescence efficiency is achieved by use of a fluorescent additive. The resulting devices show narrow emission bands and high efficiencies. The authors report on a diphenyloxadiazole-triphenylamine polymer blend. Thermal anal. data are equivalent but we present evidence that in this system, but not the quinoxaline blend, the diphenyloxadiazole is the active component. In the homopolymers it is proved it is shown that the quinoxaline derivative has blocking properties superior to those of the oxadiazole polymer and is a good candidate for use in optoelectronic devices.

12 37296-14-4 CAFOS  
RLI RCT (Reactant); SW (Synthetic preparation); PRED (Preparation); RAC (Reactant or reagent); (D) (2,3,3,5,6,6,6-methoxybenzyl)bis[1-phenyl]-, polymer for organic semiconductor applications

BN 35234-13-3 CMF Phosphine, [(2,3,3,5,6,6,6-methoxybenzyl)-4,4'-di(biphenyl-4-ylmethoxybenzyl)bis[1-phenyl]-, dibromide (9CI) (CA INDEX NAME)

IT 49-57-5- $\alpha_2$ , Triphenylphosphine, reactions

RLI RCT (Reactant); PRED (Preparation); RAC (Reactant or reagent); (D) (2,3,3,5,6,6,6-methoxybenzyl)bis[1-phenyl]-, dibromide, polymer containing both hole and electron accepting units

BN 37296-14-4 CMF(CN) Phosphine, triphenyl- (CA INDEX NAME)



08 CITING REF COUNT: 77 THERE ARE 77 CITED RECORDS THAT CITE THIS RECORD (78 CITERS)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LN NUMBER 56 OF 109 CAFOS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 2001164793 CAFOS-CAT-04-04-04

TITLE: Photoinduced resonance and electroluminescence of blue-green light emitting emulsion polymer

AUTHOR(S): Sheng, Ming; Ling, Linling; Shen, K. Elitz; Loebli, Paul M. J.; Karasz, Frank E.

CORPORATE SOURCE: Department of Materials Science & Engineering and Department of Chemistry, University of Massachusetts, Amherst, MA 01003, USA  
Polymer Division, American Chemical Society, Division

SOURCE: Polymer Preprints (American Chemical Society, Division

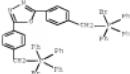
CM 2

CBN 146119-99-3

CMF C26 H34 O8



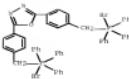
RR 372960-16-6 CAPLOSS  
 CHS Benzaldehyde, 4,4'-(1,9-octanediybis(oxy))bis[3,5-dimethyl-, polymer with 2,4,4,4'-(1,9-octanediybis(oxy))bis[3,5-dimethylphenyl]methyl]phenyl-1,3,4-oxadiazole (SC1) (CA INDEX NAME)  
 CN 1  
 CHN 372960-13-3  
 CMF C52 H42 Br2 N2 O 2 P2



CM 2  
 CHN 297155-61-4  
 CMF C26 H34 O4



RR 372960-19-9 CAPLOSS  
 CHS Benzaldehyde, 4,4'-(1,9-octanediybis(oxy))bis[3-ethoxy, polymer with 2,4,4,4'-(1,9-octanediybis(oxy))bis[3,5-dimethylphenyl]-1,3,4-oxadiazole (SC1) (CA INDEX NAME)  
 CN 1  
 CHN 372960-13-3  
 CMF C52 H42 Br2 N2 O 2 P2



CM 2  
 CHN 297155-64-7  
 CMF C26 H34 O6

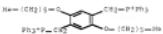


08.CITING REF COUNT: 1 THERE ARE 1 CAPLOSS RECORDS THAT CITE THIS RECORD  
 REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LC ANSWER 17 OF 109  
 ACCESSION NUMBER: 200116443934 CAPLOSS Full-text  
 DOCUMENT NUMBER: 1351358431  
 TITLE: Blue-emissive organic and photoconductive poly(phenylenevinylene)-based alternating copolymers  
 AUTHOR(S): Gurel, E.; Elifci, Farg; Yil-Karaaslan, Frank L.; Gurdan, S.; Kavak, M.; Yilmaz, S.; Yilmaz, S.  
 CORPORATE SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), Vol. 42(1), 255-256  
 SOURCE: COCCEN ACTAFAR; ISSN: 0033-3934  
 PUBLISHER: American Chemical Society, Division of Polymer Chemistry  
 DOCUMENT TYPE: Journal (computer optical disk)  
 LANGUAGE: English  
 AB: In our previous work, we have reported the synthesis of new poly(m-phenylenevinylene)-alt-(p-phenylenevinylene) polymers with butoxy or hexoxy side chains. The polymers showed high photoconductivities and efficiencies which could be attributed to the presence of the vinylene unit. In this study, we have investigated vinylcene-alternating poly(phenylenevinylene)-based polymers with different side chains and compared the efficiency and stability of the devices in various and mixed layer configurations. The results indicate that we can enhance electrical/electronic substantially by using the multi-component blend approach, and by blending the green light emitting copolymers with hole and e-e-cro.

Various materials, poly(*N*-vinylbenzene), PVN, and [2-(4-naphenyl)-3-(4-*tert*-butylphenyl)-1,3,4-oxadiazole] (butyl-PBD), resp.  
 ZZ 279474-17-9 174x4-72-8  
 RR 229494-72-8 CAPLOSS  
 CM Phosphorus, [(2,5-bis(benzoxy)-1,4-phenylene)bis(methylene)]bis(triphenyl-, dibromide, polymer with 1,1-benzenealdehyde (SC1) (CA INDEX NAME)

CN 1  
 CHN 165377-20-6  
 CMF C56 H42 O2 P2 + 2 Br



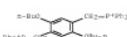
● 52"

CM 2  
 CHN 626-13-7  
 CMF C6 H6 O2



RR 229494-72-8 CAPLOSS  
 CM Phosphorus, [(2,5-bis(butoxy)-1,4-phenylene)bis(methylene)]bis(triphenyl-, dibromide, polymer with 1,3-benzenediarboxylic dianhydride (SC1) (CA INDEX NAME)

CN 1  
 CHN 229494-69-3  
 CMF C52 H54 O2 P2 + 2 Br



● 52"

ON 2  
 CHN 426-13-2  
 CMF C6 H6 O2



08.CITING REF COUNT: 1 THERE ARE 1 CAPLOSS RECORDS THAT CITE THIS RECORD  
 REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LC ANSWER 10 OF 109  
 ACCESSION NUMBER: 200116443934 CAPLOSS Full-text  
 DOCUMENT NUMBER: 1351358431  
 TITLE: Efficient single layer organic light-emitting diodes based on a terphenyl pyrazole compound  
 AUTHOR(S): Moon, D. G.; Salata, O. V.; Etchells, M.; Dobson, P. J.; Christou, V.  
 CORPORATE SOURCE: Department of Materials, University of Oxford, Oxford, United Kingdom  
 SOURCE: Synthetic Metals (Ph.D.), 123(1), 355-357  
 COUNTRY: United Kingdom  
 PUBLISHER: Elsevier Science B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB: Single layer devices of an organic-emissive complex,  $\text{Ba}(\text{Li}(\text{C}_6\text{H}_5)_3)_2\text{C}_6\text{H}_4\text{N}(\text{C}_6\text{H}_5)_2\text{P}(\text{C}_6\text{H}_5)_2\text{O}_2\text{P}(\text{C}_6\text{H}_5)_2\text{O}\text{C}_6\text{H}_4\text{N}(\text{C}_6\text{H}_5)_2\text{P}(\text{C}_6\text{H}_5)_2\text{O}_2\text{P}(\text{C}_6\text{H}_5)_2\text{O}$ , were prepared to study light emission and current transporting properties. GaN layers were used for the cathode contacts. A higher current density was obtained at a lower voltage compared to the reference device. The maximum brightness of a single layer device with a Ca cathode was  $220 \text{ cd/m}^2$  at  $14 \text{ V}$  and the best  $\text{EL}_{\text{max}} = 420 \text{ nm}$ . The  $\text{EL}_{\text{max}}$  was  $0.47 \text{ cd/m}^2$  at  $14 \text{ V}$  and  $70 \text{ nm}$ .

LC ANSWER 10 OF 109  
 ACCESSION NUMBER: 200116443934 CAPLOSS Full-text  
 DOCUMENT NUMBER: 1351358431  
 TITLE: Blue-emissive organic and photoconductive poly(phenylenevinylene)-based alternating copolymers  
 AUTHOR(S): Gurel, E.; Elifci, Farg; Yil-Karaaslan, Frank L.; Gurdan, S.; Kavak, M.; Yilmaz, S.; Yilmaz, S.  
 CORPORATE SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), Vol. 42(1), 255-256  
 SOURCE: COCCEN ACTAFAR; ISSN: 0033-3934  
 PUBLISHER: American Chemical Society, Division of Polymer Chemistry

(CA INDEX NAME)



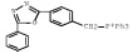
17  $\lambda_{\text{max}}^{\text{vis}} = 410$  nm CAPL05-39-0 CAPL05-39-0  
 RCT (Reagent); RCT (Reagent); RPP (Preparation); RPP (Preparation)  
 (preparation and optical properties of quinoxaline containing  
 conjugated-macrocyclic blue and blue-green 1,6-  
 diimide polymers)

20 347895-37-0 CAPL05  
 Phosphonium, [1,(3,4-methanole-2,5-diylo)bis(4,1-  
 phenylene)ethoxy]bis(triphenyl), bromide, polymer with  
 4,4'-(1,6-octenediyl)bis(isoxy)bis[3,3'-dithiobenzodiphenyl] (PCI) (CA  
 INDEX NAME)

CN 1

CNN 221615-56-1

CMF C52 H42 N2 O P2 . 2 Br



Fuji-Fuji-TMO

● Br<sup>-</sup>

CN 2

CNN 146119-99-5

CMF C26 H34 O6



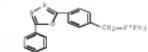
22 347895-35-9 CAPL05

CM Phosphonium, [1,(3,4-methanole-2,5-diylo)bis(4,1-  
 phenylene)ethoxy]bis(triphenyl), bromide, polymer with  
 4,4'-(1,6-octenediyl)bis(isoxy)bis[3,3'-dithiobenzodiphenyl] (PCI) (CA  
 INDEX NAME)

CN 1

CNN 221615-51-4

CMF C52 H42 N2 O



Fuji-Fuji-TMO

● Br<sup>-</sup>

06 CITING REF COUNT: 51 THERE ARE 51 CAPL05 RECORDS THAT CITE THIS  
 RECORD. 27 REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

14 ANSWER 63 OF 109 CAPL05 COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2001315958 CAPL05 Full-text

DOCUMENT NUMBER: 134302846

TYPE: Patent

INVENTOR(S): Tanaka, Hiromitsu; Moura, Makoto; Takeuchi, Hisatoshi

PATENT ASSIGNEE(S): Tokito, Seisaku Research and Development Laboratories, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION

PATENT NO.: 2001110772

KIND: P

DATE: 20010820

APPLICATION NO.: JP 2000-237442

DATE: 20000804 <--

JP 4122651

KIND: S2

DATE: 20000823

US 6771111

KIND: B1

DATE: 20000817

US 2000-632348

DATE: 20000803 <--

JP 1999-221653

KIND: A

DATE: 19990804

MURATA 134-302846

SI: 20010820

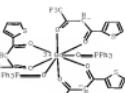
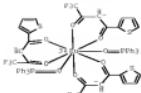
OTHER SOURCE(S): MURATA 134-302846

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MR 14221-01-3 CAPLUS  
CN Palladium, tetrakis(triphenylphosphine)-, (T-4)- (CA INDEX NAME)

$$P_{\text{A}2}\bar{P}_{\text{B}2} = \frac{\int_0^1 P_{\text{A}2} d\mu}{\int_0^1 P_{\text{B}2} d\mu}$$

OS CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)



LN: AUGHIN 66 OF 129  
 ACCESSION NUMBER:  
 DOCUMENT NUMBER:  
 TITLE:  
 SYNTHETIC AND ELECTROCONDUCTIVE PROPERTIES  
 OF ORTHO-, META- AND PARA-LINKED POLYMERS CONTAINING  
 OXADIAZOLE RINGS  
 DONG S.-T., JIANG Y., SHIM, H.-G., SONG, I.-S., KIM,  
 M.-H.  
 Department of Chemistry and School of Molecular  
 Science (HE21), Center for Advanced Functional  
 Polymers, Korea Advanced Institute of Science and  
 Technology (KAIST), Taejon 300-343, Korea  
 Polymer (1994), 24(11), 4803-4811  
 COKEE: POLMAG: ZBLN: 0032-3861  
 ESDR: ESDR: Science Lab  
 Journal: English  
 Language: English

A polymer containing a 1,3,4-oxadiazole ring was synthesized by the condensation reaction of 4,4'-biphenol with 2,5-dicyanophenyl-1,3,4-oxadiazole. The polymer had a glass transition temperature of 200°C and a melting point of 300°C. The polymer showed a conductive behavior in the range of 10<sup>-4</sup> to 10<sup>-5</sup> S/cm at 250°C. The conductivity increased with increasing temperature and decreased with increasing frequency. The polymer was soluble in NMP, DMAc, and THF. The polymer was insoluble in benzene, chloroform, and acetone. The polymer was soluble in NMP, DMAc, and THF. The polymer was insoluble in benzene, chloroform, and acetone.

RECORDING CITATIONS AVAILABLE IN THE RE-FORMAT



OS.CITING REF COUNT: 18 THERE ARE 18 CAMPUS RECORDS THAT CITE THIS  
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AND 23 CITE THEM

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT





Engineering, Miegami University, Miegami-Niromihama,  
703-8327, Japan

SOURCE: Organometallics (Engl.), 19(1981), 5582-5588

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

NUMBER OF PAGES: 7

NUMBER OF FIGS: 13

AB 1,8-(Di-*n*-octyl)lithiobenzene-, 1,3-(butyltrimethylsilyl)benzene-, and 1,8-(*n*-butyltrimethylsilyl)benzene-*n*-heptamethylphthalene (*la*-*lb*) were prepared, and their reactivities toward methylolithium were examined. The reaction of 1,8-di-*n*-octylmethylolithium afforded products arising from the addition of methylolithium to the 8-C<sub>8</sub> bond of the four-membered ring of *la*, followed by rearrangement of the resulting intermediate. The reaction of 1,8-(*n*-butyltrimethylsilyl)benzene-*n*-heptamethylphthalene (*lb*) gave the head-to-tail cyclic dianion. Treatment of *la* and *lb* with methylolithium at -78°C gave the corresponding anions (*lc*-*ld*). Optical spectra of the oligomers indicated the existence of helical structural motifs. The optical properties of the oligomers (*lc*-*ld*) and the polymers obtained from *la* were examined by the performance of an ED device with the structure of *lD*[(aliquaternary-1,8-naphthalene)/AlPc/Mg]. Which emitted green light at 520 nm under 100 mW excitation. The crystal structures of *la* and its dimer were examined by x-ray diffraction studies.

II 12 *lD*[(*la*)/AlPc/Mg]

ED (Electro-luminescent device)  
catalyst for ring opening reaction of alimonophthalenes)

14221-01-3 CAPLUS

CR Palladium, tetrakis(triphenylphosphine)-, (T-4) - (CA INDEX NAME)

PPA  
PAPD (Full-Text)  
PPA5

06 CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITATION)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

16 NUMBER 76 OF 109 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2000553644 CAPLUS Full-text  
DOCUMENT NUMBER: 133122490716  
TITLE: Hybrid electro-luminescent device  
INVENTOR(S): Akai, Minoru  
PATENT ASSIGNEE(S): TDK Corporation, Japan  
SOURCE: PCT Int Appl., 55 pp.  
COUNTRY: JPN  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUN. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 200005124	A1	20000921	WO 1999-0F3394	19990625 -->
WI CN, BR				

studied. Effects on enhancing the multifunctional performance of the conductive liquid crystals, especially the mesogenic range and fluorescence efficiency, and adml. modifications of the overall device configurations are under investigation. The authors will also report the synthesis of new heterocyclic compounds and examine their charge transport properties. Since the heterocyclic compounds are particularly sensitive to impurities the authors will also examine the influence of impurity purity on the various phys. properties.

II 17 *lD*: RCT (Reactant); RACT (Reactant or reagent)  
(Scheme to protect heterocyclic liquid crystals for organic light emitting devices applications)

13936-03-9 CAPLUS

CR Palladium, dichloro[tri(pheophine)-] (CA INDEX NAME)

PPA  
CL-G-27PA  
CP-

08 CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITITION)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

16 NUMBER 78 OF 109 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2000553644 CAPLUS Full-text  
DOCUMENT NUMBER: 133122490716  
TITLE: Fluorescent polymers and devices made therefrom  
INVENTOR(S): Ishizaki, Michael; Wu, Edmund P.; Wu, Weishi;  
Bartell, Mark  
PATENT ASSIGNEE(S): Dow Chemical Company, USA  
SOURCE: PCT Int Appl., 33 pp.  
COUNTRY: PRC  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUN. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000044321	A1	20000810	WO 1999-087876	19990409 -->
WI CN, CA, JP, KR, SG				
BR, AT, BE, CH, CY, DE, DK, ES, FI, FR, GR, IE, IT, LU, MC, NL,				
CR 55005-05-0	AT 55005-05-0	CA 1999-030006	55000409 -->	
EP 1155096	AT 20011121	CA 1999-010596	19990409 -->	
DE 6355085	AT 20011120	CA 1999-010597	19990409 -->	
DE 6355084	DE 200105120	CA 1999-010598	19990409 -->	
DE 6355082	DE 200105120	CA 1999-010599	19990409 -->	
CH 1206254	C 20000416	CA 1999-010600	19990409 -->	
EP 1155095	B 20010402	CA 1999-010601	19990409 -->	
DE 6355083	DE 200105120	CA 1999-010602	19990409 -->	
DE 20000293013	A 20010123	CA 1999-010603	20000411	
PRIOITY APPLN. INFO.: WI CN, BR		US 1999-118799P	F 19990204	

PM: AT, BE, CH, CY, DE, DK, ES, FI, FR, GR, IE, IT, LU, MC, NL,  
JP 2000026969 A 20000929 JP 1999-71785 19990317 -->  
EP 1096935 B1 20010502 EP 1999-926812 19990625 -->  
DE 6288497 B1 20010511 DE 1999-71786 19990325 -->  
CH 1275360 D 20000413 CH 1999-004094 19990425 -->

PRIOITY APPLN. INFO.:

EP 1155096

DE 6355085

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DE 6355007

**TITLE:** Synthesis of poly(arylene ether)s containing hole-transport moieties from an imidoyl masked bisphenol  
**AUTHOR(S):** Lu, Jingping; Milil, Antešir R.; Ray, Allan S.; Matyi, James J.; Sudol, Jean-Paul; Lam, Jennifer; D'Uorio, Mario  
**CORPORATE SOURCE:** Department of Chemistry, McGill University, Montreal, Quebec H3A 2K6  
**SOURCE:** Journal of Polymer Science, Part A: Polymer Chemistry (7.4), 39(15), 2749-2748  
**PUBLISHER:** John Wiley & Sons, Inc.  
**DOCUMENT TYPE:** Journal  
**LANGUAGE:** English

**ABSTRACT:** The design and synthesis of novel charge (hole- or electron)-conductor materials based on hole-transport moieties is reported. A series of their wide variety of applications. In this study, three high mol. weight poly(arylene ether)s,  $\text{E}_{\text{a}}$ ,  $\text{E}_{\text{b}}$ , containing naphthyl-substituted benzidine moiety with Pd-imidoyl masked bisphenol units, were synthesized. They are soluble in organic solvents, stable, can be readily purified by recrystallization from toluene, and can be polymerized directly with difluoro compounds under mild conditions. The polymers exhibit good thermal stability, high electron traps, excellent thermal stability, and good film-forming properties. In comparison, the poly(arylene ether)s  $\text{E}_{\text{a}}$ - $\text{c}$ , synthesized from unprotected bisphenol units, are soluble in organic solvents, but contain some brown impurities. Preliminary results show that both  $\text{E}_{\text{a}}$  and  $\text{E}_{\text{b}}$  can function well as hole-transport materials in light-emitting diodes.

**II** **ELI PFP (Properties):** CRP (Synthetic preparation); TDM (Technical or engineered material used); TPEP (Preparation); USES (Used);  
**III** **ELI CDT (Chemical Description):** A series of poly(arylene ether)s containing hole-transport moieties from an imidoyl masked bisphenol)

**49** **290815-97-1** CAPLUS  
**50** 2-Naphthylbenzidine-4,4'-[bis(1,1'-biphenyl)-4,4'-dilybia(phénylimino)]bis-  
**51** polymer with bis(4-fluorophenyl)phenylphosphine oxide (3Cl) (CA INDEX NAME)

CM 1

CBN 290815-93-9

CMF C44 H32 N2 O2



CM 2

CBN 54300-32-2

CMF C18 H13 F2 O P



**68 CITING REF COUNT:** 10 **THESE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)**  
**REFERENCE COUNT:** 32 **THESE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT**

**16** ANSWER 80 OF 109 CAPLUS COPYRIGHT 2010 ACS ON STN

**ACCESSION NUMBER:** 1331253989

**TITLE:** Synthesis of Octasubstituted Cyclooctatetraenes and Their Use as Hole Transporters in Organic Light-Emitting Diodes

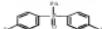
**AUTHOR(S):** Lu, Ping; Hong, Haiping; Cai, Guoping; Duorwih, Peter; Li, Ming; Wang, Jun; Li, Xiang; Li, Zhi; Li, Xian; Li, Katherine B.; Leher Hydrocarbon Research Institute, University of Southern California, Los Angeles, CA, 90089, USA

**SOURCE:** Journal of the American Chemical Society (7.4)

**DOCUMENT TYPE:** Article

**LANGUAGE:** English

**ABSTRACT:** The synthesis and characterization of octasubstituted cyclooctatetraenes (COTs), as well as their use as electron-transport materials in organic LEDs are reported. Tetraaryl-tetraethylcyclooctatetraenes (TET-COTs) with different substituents were prepared to diaryleneethylenes by treatment with lithium and iodine in 50% yield. Cyclooctatetraene (COT) with two phenyl groups at the 1 and 8 positions was also synthesized. The COTs are thermally stable to 300 °C and have wide optical energy gaps (loss/emission = 392–462 nm) making them good candidates for use in organic LEDs. These octasubstituted COTs have been used



**EN 290815-98-4** CAPLUS

**CN** Poly(4-phenylphenoxy phenylphosphine oxide)-1,4-phenylenehexo-2,6-naphthalenediylphenylimino)[1,1'-biphenyl]-4,4'-diyl(phénylimino)-2,6-naphthalenediyl] (3Cl) (CA INDEX NAME)

FIGURE 1-A

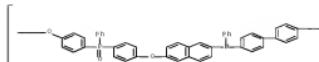
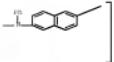


FIGURE 1-B



**EN 290816-05-6** CAPLUS

**CN** Carbamic acid, propyl-, [1,1'-biphenyl]-4,4'-diyl[bis(phénylimino)-6,2-oxy] (3Cl) (CA INDEX NAME)

CM 1

CBN 290815-94-0

CMF C32 H45 N4 O4

FIGURE 1-C

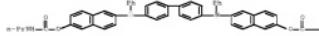


FIGURE 1-B

as electron-trap layers in single heterostructure organic LEDs, i.e., ITO/NPD/400 Å/undoped COT 400 Å/Mg-Ag (ITO = indium tin oxide, NPD = N,N'-diphenyl-N,N'-diphenylbenzidine). External quantum efficiencies of 0.1–0.2% were obtained at 460 nm emission wavelength under 10 mA/cm<sup>2</sup>. The emission from this device comes exclusively from the NPD hole transporting layer, with a  $\lambda_{\text{max}}$  of 435 nm. Doping the NPD layer with 1% perylene leads to an increase in the external quantum efficiency to 0.3% at 460 nm, which is indicative of emission solely from the perylene dopant, confirming exclusive emission from the NPD hole transporting layer.

**II** **ELI PFP (Properties):** CRP (Synthetic preparation); TDM (Technical or engineered material used); TPEP (Preparation); USES (Used);  
**III** **ELI CDT (Chemical Description):** Tetraakis(triphenylphosphine)palladium dichloride

**52** **13965-03-9** CAPLUS  
**(preparation of tetraazatetracyanethoxyethoxyethoxytetraselena-**

**53** **13965-03-9** CAPLUS  
**CH** Palladium, dichlorobis(triphenylphosphine)= (CA INDEX NAME)



**EN 14221-01-3** CAPLUS

**CN** Palladium, tetrakis(triphenylphosphine)-, (7-4)- (CA INDEX NAME)



**EN 25360-12-1** CAPLUS

**CN** Ruthenium, carbonyldihydrotetraphenylphosphine)= (CA INDEX NAME)



**68 CITING REF COUNT:** 38 **THESE ARE 38 CAPLUS RECORDS THAT CITE THIS RECORD (38 CITINGS)**

**REFERENCE COUNT:** 74 **THESE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT**

**16** ANSWER 81 OF 109 CAPLUS COPYRIGHT 2010 ACS ON STN



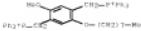




CN 1

CN# 252338-07-1

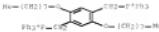
CM# C53 H56 O2 F2 . 2 Cl

● Cl<sup>-</sup>

CN 2

CN# 148473-36-7

CM# C60 H10 O2 F2 . 2 Cl

● Cl<sup>-</sup>

CN 3

CN# 623-37-0

CM# C6 BE O2

● Cl<sup>-</sup>

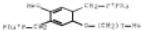
INN 271199-77-2 CAS#606

CP Phosphonium, [(2,5-dimethoxy-1,4-phenylene)bis(methylene)]bis[triphenyl]-, dichloride, polymer with 1,4-benzenedicarboxaldehyde and [12-(methoxy-3-(octyl oxy)-1,4-phenylene)bis(methylene)]bis[triphenylphosphonium] dichloride (PCI) (CA INDEX NAME)

CN 1

CN# 252338-07-1

CM# C53 H56 O2 F2 . 2 Cl

● Cl<sup>-</sup>

CN 2

CN# 66-98-8

CM# C14 H10 O2

● Cl<sup>-</sup>

06 CITTING REF COUNT: 1 THEME ARE 1 CARLOS RECORDS THAT CITE THIS RECORD (5 CITTING)

LF NUMBER 88 OF 109 CARLOS COPYRIGHT 2010 ACS on STN

DOCUMENT NUMBER: 2000308725 CARLOS Full-text

TITLE: A series of copolymers containing

2,5-dicyano-1,4-phenylene-vinylene—Synthetic tuning of the HOMO and LUMO energy levels of conjugated polymers

AUTHOR(S): Xiao, Tang Yu, Wang-Lin Chua, Boor-Jinn Huang, Wei Zeng, Institute of Materials Research and Engineering (IMRE), National University of Singapore, Singapore, 117602, Singapore

SOURCE: Chem Mater. 2006;18(10):2121-2122.

000250 CARLOS ISSN: 0897-6256

PUBLISHER: Wiley-Interscience

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT: A series of copolymers containing 2,5-dicyano-1,4-phenylenevinylene and 3-methoxy-5-(2-ethylhexyl oxy)-1,4-phenylenevinylene units were synthesized by Mittig reactions. The HOMO and LUMO energy levels of copolymers can be easily tuned by controlling the ratio of the two monomers. The copolymer is a typical hole-transport material to a typical electron-acceptor material by controlling the feed ratio of co-monomers. This method opens a novel way to control the properties of conjugated polymers through their electronic properties by controlling the feed ratio of selected monomers.

IT 22

RL PFP (Proprietary) EPN (Synthesis preparation); PFP (Preparation) (synthetic tuning of the HOMO and LUMO energy levels of novel conjugated polymers containing dicyano-phenylene-vinylene units)

BB 24523-21-0 CARLOS

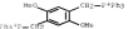
CM Phosphonium, [(2,5-dicyano-1,4-phenylene)bis(methylene)]bis[triphenyl-, dichloride, polymer with 2-(2-ethylhexyl oxy)-5-methoxy-1,4-

● Cl<sup>-</sup>

CN 2

CN# 10273-64-0

CM# C46 H42 O2 F2 . 2 Cl

● Cl<sup>-</sup>

CN 3

CN# 623-27-8

CM# C8 H6 O2



CN 271199-78-3 CAS#606

CP Phosphonium, [(2-methoxy-5-(octyl oxy)-1,4-phenylene)bis(methylene)]bis[triphenylphosphonium] dichloride (PCI) (CA INDEX NAME)

CN 1

CN# 252338-23-3

CM# C53 H56 O2 F2 . 2 Cl

benzenedicarboxaldehyde (PCI) (CA INDEX NAME)

CN 1

CN# 232948-23-3

CM# C46 H36 N2 F2 . 2 Br

● Br<sup>-</sup>

CN 2

CN# 203251-23-3

CM# C17 H24 O4



CN 271199-22-1 CAS#606

CP Phosphonium, [(2,5-dicyano-1,4-phenylene)bis(methylene)]bis[triphenyl-, dichloride, polymer with 2-(2-ethylhexyl oxy)-5-methoxy-1,4-phenylene]bis[triphenylphosphonium] dichloride (PCI) (CA INDEX NAME)

CN 1

CN# 232948-23-3

CM# C46 H36 N2 F2 . 2 Br

● Br<sup>-</sup>

CN 2

CN# 203251-22-3

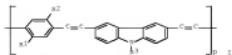
CM# C46 H36 N2 F2 . 2 Br







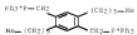
US 6124045 A 20000926 US 1398-131801 13980012 -->  
 PRIORITIES APPLIED INFO.: I  
 KR 1997-30329 A 19970121  
 KR 1997-77055 A 19971229  
 ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LISTS DISPLAY FORMAT  
 G2



46 A light-emitting polymer for an electroluminescent display comprises a polymer having a polymer backbone consisting of a poly(ether ether ketone) moiety, independently of C-13 aliphatic alkyl or C-14 branched alkyl;  $p = 5-100$ ; and/or a polymer having an nadisole moiety and a poly(p-phenylenevinylene) moiety, and independently of C-13 aliphatic alkyl or C-14 branched alkyl;  $p = 5-100$ . The polymer is applied to a light-emitting layer of a U-shape emitting diode having a cathode/anode/matrix layer/anode structure, a cathode/buffer layer/tpn=emission layer/anode/matrix layer/anode structure, or a cathode/buffer layer/tpn=emission layer/anode/matrix layer/anode structure. Thus, a 2,5-bis(p-triphenylphosphoryl)-1,4-bis[2-(methylsulfonyl)-4-(2-methoxyethoxy)-2-phenyl]benzene was used as the phosphorescent polymer, which was soluble in an organic solvent and showed excellent electron-transport properties.

47 (C1-1) 09  
 ERI (MP) (Industrial manufacturer); RCT (Reactant); PREP (Preparation); RACT (Reaction); RDS (Reaction); RPP (Preparation); RWT (Preparation); and Witting polymerization with carbazole compds.; in preparation of organic  
 photoconductive polymer for light-emitting  
 diodes

48 224535-07-0 CAPLUS  
 Phosphorescent, 1,1'-bis[2-(2,5-bis[2-(4-phenyl)bis(methylene)]bis[1,1'-tritylphosphine]-4-phenylsulfonyl)-4-(2-methoxyethoxy)-2-phenyl]benzene, which was soluble in an organic solvent and showed excellent electron-transport properties.



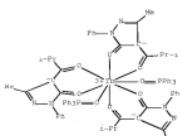
● C1-

49 [2-(4-Phenyl)-2-  
 (2,5-Bis[2-(4-phenyl)bis(methylene)]bis[1,1'-tritylphosphine]-4-phenylsulfonyl)-4-(2-methoxyethoxy)-2-phenyl]benzene, which was soluble in an organic solvent and showed excellent electron-transport properties for light-emitting  
 diodes

TITLE: Photoluminescence and electrical properties of a series of terbium complexes  
 AUTHOR(S): Dao, Xi-Cun; Cao, Hong; Huang, Chenghu; Qian, Sheng; Wang, Xiang; Li, Peng  
 CORPORATE SOURCE: State Key Laboratory of Rare Earth Materials Chemistry and Applications, Peking University, Beijing, 10087, People's Republic of China  
 SOURCE: Synthetic Metals (1999), 99(2), 127-132  
 SUBTITLE: Synthesis, Structure, and Properties of Terbium Complexes Having a Neutral Ligand  
 PUBLISHER: Elsevier Science S.A.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Photoluminescence and electrical properties of Tb complexes based on 1-phenyl-3-methyl-2-pyranolone were analyzed. The 1st absorption band of the pyranolone ligand shifts from 350 nm to 370 nm with increasing wavelength as the R changes from an electron acceptor to an electron donor. Correspondingly, the photoluminescence quantum efficiency of the Tb complexes increases with the electron-donating ability of the R group. The influence of the R group and neutral ligand on the photoluminescence is presented. The luminescence intensity of the Tb complexes having a neutral ligand is higher than that of the Tb complexes having a neutral ligand. The emission of the Tb complexes having a neutral ligand comes from both the light-emitting layer and the hole transport layer while the emission of the Tb complexes having a neutral ligand comes from the green coming solely from the hole-transport layer. It therefore demonstrates that the former have higher electron-transportability than the latter.

50 [2-(4-Phenyl)-2-  
 (2,5-Bis[2-(4-phenyl)bis(methylene)]bis[1,1'-tritylphosphine]-4-phenylsulfonyl)-4-(2-methoxyethoxy)-2-phenyl]benzene, which was soluble in an organic solvent and showed excellent electron-transport properties for light-emitting  
 diodes

51 Terbium, tri(2,4-dihydro-5-methyl-4-(2-methyl-3-( $\alpha\omega$ -Ph)propyl)-2-phenyl-3H-pyrazol-3-onato- $\omega$ O)bis(triphenylphosphine oxide- $\omega$ O)- (CA INDEX NAME)



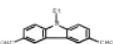
RN 224535-02-7 CAPLUS  
 Phosphorescent, [2-(2-dimethyl-1,4-phenylenebis(methylene))bis[1,1'-tritylphosphine]-4-phenylsulfonyl)-4-(2-methoxyethoxy)-2-phenyl]benzene, polymer with 9-ethyl-9H-carbazole-3,6-dicarboxaldehyde (PhCl) (CA INDEX NAME)

CM 1  
 224535-07-0  
 CMF C56 H62 O2 2 C1



● C1-

CM 2  
 70207-46-4  
 CMF C16 H13 O2



IT 1,3,5,7-tetrabenzyl-Triphenylphosphine, reactions  
 RN ERI (Reactant), RAC (Reactant of Reagent)  
 (Reaction); RPP (Preparation); RWT (Preparation); and Witting polymerization with carbazole compds.; in preparation of organic  
 photoconductive polymer for light-emitting  
 diodes

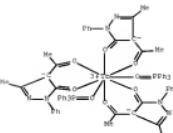
RN 224535-02-0 CAPLUS

CH Triphenylphosphine, triphenyl- (CA INDEX NAME)

● C1-

68 CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD  
 (11 CITINGS)  
 L6 ANSWER 97 OF 109 CAPLUS COPYRIGHT 2010 ACS en EB  
 ACCESSION NUMBER: 19991116304 CAPLUS Full+Text  
 DOCUMENT NUMBER: 199103448

RN 223262-01-9 CAPLUS  
 CH Terbium, tri[4-(methyl- $\omega$ O)-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-onato- $\omega$ O]bis(triphenylphosphine oxide- $\omega$ O)- (CA INDEX NAME)



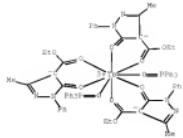
RN 2223C2-02-0 CAPLUS  
 CH Terbium, tri[2,4-dihydro-5-methyl-4-(1- $\alpha\omega$ -Ph)propyl]-2-phenyl-3H-pyrazol-3-onato- $\omega$ O)bis(triphenylphosphine oxide- $\omega$ O)- (CA INDEX NAME)



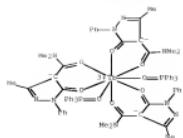
RN 2223C2-03-1 CAPLUS  
 CH Terbium, tri[2,4-dihydro-5-methyl-4-(1- $\alpha\omega$ -Ph)butyl]-2-phenyl-3H-pyrazol-3-onato- $\omega$ O)bis(triphenylphosphine oxide- $\omega$ O)- (CA INDEX NAME)



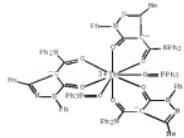
FR 223262-04-2 CAPLOS  
CS Terbium, tri[ethyl 4,5-dihydro-3-methyl-5-(oxo-W)-1-phenyl-1H-pyrazole-4-carboxyato-Wd']bis(triphenylphosphine oxide-W)-  
(9C1) (CA INDEX NAME)



NS 223262-06-4 CAPLUS  
CS Terbium, tri{[4,5-dihydro-N,N,3-trimethyl-5-(oxo- $\lambda$ O)-1-phenyl-1H-pyrarole-4-carboxamido- $\lambda$ O}bis(triphenylphosphine oxide- $\lambda$ O)-(9Cl) (CA INDEX NAME)

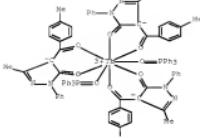


KB 223262-07-5 CAPL88  
 CH Tetraimine[4,5-dihydro-3-methyl-5-(oxo- $\omega$ )-9,9,1-triphenyl-1H-pyrazole-4-carboxamido- $\omega$ 4]bis(triphenylphosphine oxide- $\omega$ )-(9C1) (CA INDEX NAME)



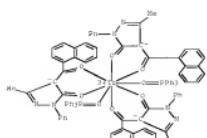
RN 223262-08-6 CAPLUS  
CN Tertium, tris[2,4-dihydro-5-methyl-4-(4-methylbenzoyl)-6-phenyl-3H-pyrazol-3-oneato- $\omega$ 3]bis(triphenylphosphine oxide-NO) - (CA INDEX NAME)

PAGE 1-3



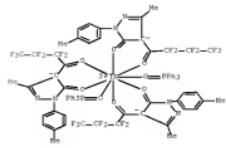
3

DOI: 223262-09-7 CAPLUS  
CS: Terbium, triis[2-(4-dihydro-3-methyl-1-(1-naphthalenylcarbonyl)- $\omega$ -1-phenyl-38-pyrazol-3-oneato- $\omega$ 3]bis(triphenylphosphine oxide)chloride, C<sub>57</sub>H<sub>60</sub>N<sub>2</sub>O<sub>10</sub>Tb, CAS Registry Number:



RN 223262-10-0 CAPLON  
CN Terbutam, trim[4-(2,2,3,3,4,4,4-heptafluoro-1-(oxo- $\omega$ O)butyl]-2,4-

dihydro-5-methyl-2-(4-methylphenyl)-3H-pyrazol-3-oneato-N(3)bis(triphenylphosphine oxide-MO)- (CA INDEX NAME)



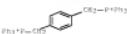
OS CITING REF COUNT: 36 THERE ARE 36 CAPlus RECORDS THAT CITE THIS RECORD (36 CITINGS)  
REFERENCE COUNT: 20 THERE ARE 20 CITERO REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT







CN 2

C23 40817-23-6  
CMF C46 H38 F2 2 9c

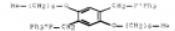
● cl-

00 CITING REF COUNT: 76 THERE ARE 76 CAPLUS RECORDS THAT CITE THIS RECORD (80 CITINGS)  
REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD - ALL CITATIONS AVAILABLE IN THE RE FORMAT

64 NUMBER 105 OF 109 CAPLUS COPYRIGHT 2010 ACS ON STN  
ACCESSION NUMBER: 1997133471 CAPLUS Full-text  
DOCUMENT NUMBER: 1261310316  
ORIGINAL REFERENCE NO.: 1261602256, 629282  
TITLE: Electroluminescent devices  
INVENTOR(S): Jones, Peter (Institute Wehrheim, Rolf); Eichner, Andreas;  
Koepflein, Helmut; Maier, Helmut-Martin  
PATENT ASSIGNEE(S): Daimler-Benz AG  
SOURCE: Eur. Pat. Appl., 27 pp.  
CROSS REF FROM: 200601230316

DOCUMENT TYPE: Patent  
LANGUAGE: German  
PARENT/CITING REF COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 064712	A2	19970526	EP 1996-114371	19960909 <>
EP 064713	A2	19970526	EP 1996-114371	19960909 <>
DE 19552543	Al	19970227	DE 1995-19535063	19950915 <>
DE 19552544	Al	19970227	DE 1995-19535063	19950915 <>
DE 11591131	Al	19970210	DE 1996-122547	19960920 <>
PATENT ATTRIBUTION: INFO-1			DE 1995-19535063	A 19950921
CROSS REF FROM: 200601230316				
AB	Led-luminous devices which comprise 22 electrodes (e.g., a base substrate and/or a polymer substrate) which are connected to a multi-layered organic electroluminescent device. The layers are described in which the light-emitting layer may also include 21 add'l. layers selected from hole-transferring, hole-injecting, electron-injecting, films. The invention is also described in which the light-emitting layer is:			
17	/sub>73-74, Triphenylphosphine, wmn RL: DEV (Device component used); USE (Used) LM: Luminescent (Electroluminescent devices)			
RR	623-35-0 CAPLUS			



● cl-

CN 2  
C23 623-35-0  
CMF CE HE OZ

22 199506-10-4x  
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
CMF: Phosphine, tri-1,3-bis(heptylacyl)-1,6-phenylene(bis(methylene))bis(triphenyl-, dichloride (9CI) (CA INDEX NAME)

60 13239-78-4 CAPLUS  
Phosphine, tri-1,3-bis(heptylacyl)-1,6-phenylene(bis(methylene))bis(triphenyl-, dichloride (9CI) (CA INDEX NAME)

60 13239-78-4 CAPLUS  
Phosphine, tri-1,3-bis(heptylacyl)-1,6-phenylene(bis(methylene))bis(triphenyl-, dichloride (9CI) (CA INDEX NAME)

60 13239-78-4 CAPLUS  
Phosphine, tri-1,3-bis(heptylacyl)-1,6-phenylene(bis(methylene))bis(triphenyl-, dichloride (9CI) (CA INDEX NAME)

60 13239-78-4 CAPLUS  
Phosphine, triphenyl- (CA INDEX NAME)



● cl-

00 CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITING)

64 NUMBER 105 OF 109 CAPLUS COPYRIGHT 2010 ACS ON STN  
ACCESSION NUMBER: 199659461 CAPLUS Full-text  
DOCUMENT NUMBER: 125100095  
ORIGINAL REFERENCE NO.: 125130685a, 36685a  
TITLE: Fabrication and components of organic electroluminescent device with multi-layered structure  
INVENTOR(S): Forrest, Stephen R.; Thompson, Mark E.; Burrows, Paul E.; Kaplan, Linda S.; McElroy, Dennis N.  
PATENT ASSIGNEE(S): Trustees of Princeton University, USA  
SOURCE: Fr. Comm. 62 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
PARENT/CITING REF COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2738092	AI	19980614	FR 1995-14793	19951213 <>
EP 1202073	A	19980612	EP 1995-14793	19951213 <>
US 5707145	A	19980113	US 1994-35476	19941213 <>
CA 2204769	AI	19980227	CA 1995-220476	19951206 <>
EP 0830444	A	19981126	EP 1995-14793	19951206 <>
US 6082444	B1	20020703		
EP 1202073	A	19980614	EP 1995-14793	19951206 <>
GB 2311748	T	19980113	GB 1997-152510	19971206 <>
US 5313479	A	19990414		
EP 1202073	AI	19981126	DE 1995-1821826	19951206 <>
US 5915075	A	19991202	US 1995-10076	19951206 <>
CA 1170383	A	19980114	CA 1995-18087	19951206 <>
EP 1202073	AI	19981126	EP 1995-14793	19951206 <>
JP 10503878	T	19980607	JP 1996-519810	19951206 <>
JP 3496581	B2	20040416		
EP 1202073	AI	19981126	DE 1995-45093	19951206 <>
US 5915076	A	19990801	US 1996-50018	19951206 <>
DE 2117930	AI	19980201	DE 1995-132510	19951206 <>
EP 1202073	AI	19980201	EP 1995-320750	19951206 <>
CA 1293425	A	20010502	CA 2000-200010978	19951206 <>
EP 1202073	AI	19980201	EP 2001-108236	19951206 <>
EP 1139059	B1	20020731		
EP 1202073	AI	19980201	EP 2001-108236	19951206 <>
AT 2202073	AI	19980201	AT 1995-14793	19951206 <>
DE 2202073	AI	19980201	DE 1995-14793	19951206 <>
DE 972057	AI	19990606	DE 1995-600608	19951206 <>
EP 1202073	AI	19980201	EP 1995-14793	19951206 <>
PL 9702176	A	19970717	PL 1997-2176	19971051 <>
NO 9702065	A	19970711	NO 1997-2795	19971051 <>
US 5901439	A	20000209	US 1995-454809	19951206 <>
US 6345270	B1	20020602		
EP 1202073	AI	19980201	EP 2000-105539	19951206 <>
DE 1202073	AI	19980201	DE 2000-105539	19951206 <>
JP 2001273979	A	20011105	JP 2001-72847	20001070 <>
JP 4057334	B1	20020227		

PRIORITY ATTR.: INFO-1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 1994-254734	A	19941213		
CA 1995-196807	A3	19951206		
EP 3995-346380	A3	19951206		

JP 1996-519940 A3 19951206  
WO 1995-0211789 A 19951206  
US 1997-964009 A1 19971107

ASSIGNMENT NUMBER FOR US PATENT AVAILABLE IN LCD DISPLAY FORM

AB A device having a stepped layered structure of alternating organic films is described, in which the light emitting layer is stacked on top of each other, separated by conducting transparent metal layers. A  $\lambda$ -stacked EL film comprising a polymer film having a polymer chain containing a carbonyl group sandwiched between an electron transport layer and a hole transport layer. The device produces a desired combination of discrete wavelength (e.g., red, green, blue) emission from the stacked organic layers and the conductive metal layers to the EL. The EL can be an emissive complex of metals and organic ligands in g. trivalent metal picolinate complexes or zinc Schiff base complexes. The polymer film may be a polyimide, polyetherimide, polyether sulfone, or polyesters. The polymers can also be used in thin structures. Various structural variations (including a hermetically sealed device) and fabrication methods to produce the stackings processes are described.

II 12 JP 1995-0211789 A 19951206  
WO 1995-0211789 A 19951206  
US 1997-964009 A1 19971107  
CN 101000000 A 19970101  
DE 69610000 A 19970101

CN 101000000 A 19970101 (CA INDEX NAME)



06.CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD  
REFERENCE COUNT: 3 THERE ARE 3 CITRED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LA ANSWER 109 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 1996-5199407 CAPLUS Full-text

DOCUMENT NUMBER: 19951206-CAPLUS

ORIGINAL REFERENCE NO.: 125153021a, 53406a

TITLE: Systematic investigation of the effects of organic materials on the performance of organic light-emitting diode performance

AUTHOR(S): Jowicki, M. J.; Campbell, T. R.; Barashkov, N. N.; Furtach, A. M.

CORPORATE SOURCE: Los Alamos National Lab., Los Alamos, NM, 87545, USA

SOURCE: Journal of Applied Physics (1948), 80(5), 2033-2039

CODEN: JAPAD; ISSN: 0021-8993

PUBLISHER: American Institute of Physics

ISSN/DOI/URL: DOI:10.1063/1.301303

LANGUAGE: English

AB The effects of selected organic structures on LCD performance was studied. Metal/organic film/metal IEDs were fabricated using a 5 ring, poly(phenylene vinylene) related oligomer as the active layer. The structure of the vacuum

AB  $\lambda$ -stacked (EL) characteristics on EL devices made of vacuum-sublimed dye films and spin-coated polymer films were compared. Low-molecular-mass dye, 9,10-bis[4-(N,N-diphenylamino)styryl]anthracene (dy-E8A), for the preparation of the active layer, was used. The active layer was composed of a mixture of E8A and ether groups (polymer-B8A) were employed. Single-layer devices, indium-tin oxide (ITO)/dye-B8A/MgF<sub>2</sub> and ITO/polymer-B8A/MgF<sub>2</sub> were prepared, and EL performances were measured. The EL intensity of the polymer-B8A devices derivative (E8D-T) in vacuum layer, ITO/dye-B8A/GD-T/MgF<sub>2</sub> and ITO/polymer-B8D-T/MgF<sub>2</sub>, were also prepared. The 0.01-nm range re-emission based on the E8D-T polymer was observed. The differences were mainly due to the poor film quality of polymer-B8A. The comparison of the luminescence intensity of the devices with the same doses of E8A film showed that the polymer-B8S devices exhibited similar EL characteristics as the dye-E8A devices in the region of c.d. higher than 10 kV/cm. The possible mechanism of the material design concept for low-molecular-mass materials and polymers was discussed.

II 12 JP 1995-0211789 A 19951206  
(Comparison of device performance in two thin-film elv-structured devices made of vacuum-sublimed dye film and spin-coated polymer film)

AB 174422-55-2 CAPLUS

Phosphonate, 1-(4-phenoxybenzyl)benzyl(bis(trifluoromethyl)dibromide, polymer with 4,4'-[1,1'-biphenyl]-4,4'-bis(phenoxy)-1,1'-biphenyl-phosphonate (bisphenol-P(Cl)(CH<sub>2</sub>)<sub>4</sub>Ph<sub>2</sub>O<sub>2</sub>Cl) (CA INDEX NAME)

CN 1

CNS 16478-26-1  
CNF 646 844 92 04



CN 2

CNS 40827-23-6

CNS 144 835 P2 - x H



06.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS RECORD (14 CITRED)

emissive oligomer film was varied from absorption to polarization by changing the substrate temperature during deposition. The intrinsic properties of the oligomer films and the LED performance were measured. The measured intrinsic film properties include optical absorption, photoluminescence (PL) spectra, PL quantum efficiency, electroluminescence (EL) spectra, and the measured device characteristics include current-voltage, capacitance-voltage, etc.  $\phi_{\text{el}} = \phi_{\text{pl}} \times \eta_{\text{el}}$  (EL efficiency, and the contact metal/organic film Schottky barrier height ( $\phi_m$ ) were measured. The EL quantum efficiency of the film is weakly dependent on film structure but the effective carrier mobility decreases with increasing crystallinity. The EL quantum efficiency decreases with increasing film thickness. The current density increases, and the electron Schottky barrier height increases as the thickness of the film is increased. The diode current-voltage characteristics were measured. The measured  $\phi_m$  value was 4.2 eV. The  $\phi_{\text{el}} = \phi_{\text{pl}} \times \eta_{\text{el}}$  efficiency is controlled by the contact limited  $\phi_{\text{el}}$ . These results demonstrate significant effects of organic film structure on the performance of organic LEDs.

II 12 JP 1995-0211789 A 19951206  
WO 1995-0211789 A 19951206  
US 1997-964009 A1 19971107  
CN 101000000 A 19970101  
DE 69610000 A 19970101

BR 1996-51-6 CAPLUS  
CN 101000000 A 19970101 (CA INDEX NAME)  
DE 69610000 A 19970101 (CA INDEX NAME)



● CI-

06.CITING REF COUNT: 56 THERE ARE 56 CAPLUS RECORDS THAT CITE THIS RECORD (56 CITRED)

LA ANSWER 109 OF 109 CAPLUS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 1996-5199407 CAPLUS Full-text

DOCUMENT NUMBER: 19951206-CAPLUS

ORIGINAL REFERENCE NO.: 12419437, 21746

TITLE: Electroluminescent device performance in two thin-film electroluminescent devices made of vacuum-sublimed dye film and spin-coated polymer film

AUTHOR(S): Kondo, T.; Matsuda, S.; Tanaka, S.; Itoh, T.; Matsui, T.; Saito, S.

CORPORATE SOURCE: Dept. of Material Science and Technology, Kyushu University, Fukuoka, Japan

SOURCE: Japanese Journal of Applied Physics, Part 1, Regular Papers, Short Notes & Review Papers (1975), 14(10), 2000-2003

CODEN: JJAPD; ISSN: 0021-4922

Japanese Journal of Applied Physics

JOURNAL: Japanese Journal of Applied Physics

LANGUAGE: English

PUBLISHER: Japanese Society for Applied Physics

ISSN/DOI/URL: DOI:10.1143/JJAP.14.2000

AB The authors report the device performance in two thin-film electroluminescent devices made of vacuum-sublimed dye film and spin-coated polymer film. The polymer film was prepared by spin-coating onto the ITO substrate. The polymer film was composed of a mixture of E8A and ether groups (polymer-B8A) and the active layer was composed of a mixture of E8A and ether groups (polymer-B8D-T).

AB The EL intensity of the polymer-B8A devices derivative (E8D-T) in vacuum layer, ITO/dye-B8A/GD-T/MgF<sub>2</sub> and ITO/polymer-B8D-T/MgF<sub>2</sub>, were also prepared. The 0.01-nm range re-emission based on the E8D-T polymer was observed. The differences were mainly due to the poor film quality of polymer-B8A. The comparison of the luminescence intensity of the devices with the same doses of E8A film showed that the polymer-B8S devices exhibited similar EL characteristics as the dye-E8A devices in the region of c.d. higher than 10 kV/cm. The possible mechanism of the material design concept for low-molecular-mass materials and polymers was discussed.

II 12 JP 1995-0211789 A 19951206  
(Comparison of device performance in two thin-film elv-structured devices made of vacuum-sublimed dye film and spin-coated polymer film)

AB 174422-55-2 CAPLUS

Phosphonate, 1-(4-phenoxybenzyl)benzyl(bis(trifluoromethyl)dibromide, polymer with 4,4'-[1,1'-biphenyl]-4,4'-bis(phenoxy)-1,1'-biphenyl-phosphonate (bisphenol-P(Cl)(CH<sub>2</sub>)<sub>4</sub>Ph<sub>2</sub>O<sub>2</sub>Cl) (CA INDEX NAME)

CN 1

CNS 16478-26-1  
CNF 646 844 92 04

AB  $\lambda$ -stacked (EL) characteristics on EL devices made of vacuum-sublimed dye films and spin-coated polymer films were compared. Low-molecular-mass dye, 9,10-bis[4-(N,N-diphenylamino)styryl]anthracene (dy-E8A), for the preparation of the active layer, was used. The active layer was composed of a mixture of E8A and ether groups (polymer-B8A) were employed. Single-layer devices, indium-tin oxide (ITO)/dye-B8A/MgF<sub>2</sub> and ITO/polymer-B8A/MgF<sub>2</sub> were prepared, and EL performances were measured. The EL intensity of the polymer-B8A devices derivative (E8D-T) in vacuum layer, ITO/dye-B8A/GD-T/MgF<sub>2</sub> and ITO/polymer-B8D-T/MgF<sub>2</sub>, were also prepared. The 0.01-nm range re-emission based on the E8D-T polymer was observed. The differences were mainly due to the poor film quality of polymer-B8A. The comparison of the luminescence intensity of the devices with the same doses of E8A film showed that the polymer-B8S devices exhibited similar EL characteristics as the dye-E8A devices in the region of c.d. higher than 10 kV/cm. The possible mechanism of the material design concept for low-molecular-mass materials and polymers was discussed.

II 12 JP 1995-0211789 A 19951206  
(Comparison of device performance in two thin-film elv-structured devices made of vacuum-sublimed dye film and spin-coated polymer film)

AB 174422-55-2 CAPLUS

Phosphonate, 1-(4-phenoxybenzyl)benzyl(bis(trifluoromethyl)dibromide, polymer with 4,4'-[1,1'-biphenyl]-4,4'-bis(phenoxy)-1,1'-biphenyl-phosphonate (bisphenol-P(Cl)(CH<sub>2</sub>)<sub>4</sub>Ph<sub>2</sub>O<sub>2</sub>Cl) (CA INDEX NAME)

CN 1

CNS 16478-26-1  
CNF 646 844 92 04

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CN 1

CNS 16478-26-1  
CNF 646 844 92 04

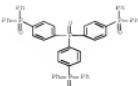
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16. ANSWER 3 OF 3 CAPTION: COPYRIGHT 2010 ACS ON STM  
ACCESSION NUMBER: 20071119987 CAPTION: Full-text

DOCUMENT NUMBER: 1471436474  
TITLE: Organic-inorganic composite semiconductor material, liquid material, organic light emitting element, method for manufacturing organic light emitting element, light emitting device and electron transporting apparatus  
INVENTOR(S): Nakajima, Hisayoshi; Ohgami, Taro; Kawanou, Takeshi; Moto, Mitsuhiro; Hayashida, Tatsuyuki; Goto, Tetsuyuki  
PATENT ASSIGNEE(S): Seiko Epson Corporation; Japan Hydron Corporation; Hydron Co., Ltd.; Hydron Technology, Incorporated  
SOURCE: U.S. Pat. Appl. Publ., 27pp.

DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACT. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20072225356	A1	20071004	US 2007-691832	20070827
JP 2008-120239	A	20080122	JP 2008-102556	20080403
DE 101055524	A	20100121	CN 2007-10092166	20070402
EP 1999 000 001	A	20090120	JP 2007-10092166	20070402
JP 2009-115310	A	20090528	JP 2008-335000	20081227

PRIORITY APPLN. INFO.: *JP 2007-10092166* A 20070402

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LISTS DISPLAY FORMAT  
OTHER SOURCE(S): MARPAT 247451643

AB Organic-inorganic composite semiconductor material including material mainly made of an organic compound containing phosphorus and a metal complex containing an alkali earth metal ion and a rare-earth metal ion, and a chemical compound represented by the following general formula ( $(Ar_1)_2P(Ar_2)_3Ar_3PO$ , where  $Ar_1$  is an aryl group,  $Ar_2$  is an aryl group which may have a substituent group, and  $Ar_3$  is an aryl group which may have a substituent group) comprising an organic light emitting element having an electron transporting film comprising the organic-inorganic composite material, a hole transporting film, an anode, a cathode, and a phosphorescent layer, and  $Ar_1$ -bis( $Ar_2$ -phenyl)- $Ar_3$ -phosphine-oxazoline is also described.

27. ANSWER 3 OF 3 CAPTION: COPYRIGHT 2010 ACS ON STM  
EL: TEM (Technical or engineered material use); USES (Uses)

KR 2007015540 A 20070209 KR 2008-721477 20081017  
US 2007290605 A2 200711220 US 2007-599334 20070628

PRIORITY APPLN. INFO.: KR 10-2006-0000000 A 20060420  
KR 10-2006-0000000 A 20060420

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LISTS DISPLAY FORMAT  
OTHER SOURCE(S): 1471436474

AB The invention relates to an organic electroluminescent device provided with a plurality of organic compound layers sandwiched between an anode and a cathode. The organic electroluminescent device is provided with a hole transporting layer, an electron transporting layer, an emitting layer, a phosphorescent layer, and an electron transporting layer formed on the hole transporting layer by a wet method. The material of the electron transporting layer is an organic compound which has a substituent group and exists in a low viscosity. A method for manufacturing the organic electroluminescent element, the organic compound containing phosphorus and a method for manufacturing such compound are also provided.

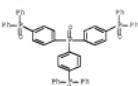
12. ANSWER 3 OF 3 CAPTION: COPYRIGHT 2010 ACS ON STM  
EL: TEM (Technical or engineered material use); USES (Uses)

RE: organic compound component used; IUPAC (Properties); IUPAC (Synthetic preparation); IUPAC (Preparation); USES (Uses)

(organic compound containing phosphorus used in organic electroluminescent device and its preparation)

RE: 068520-12-1 CAPTION

CH Phosphine oxide, tri[4-(diphenylphosphinyl)phenyl]- (CA INDEX NAME)



12. ANSWER 3 OF 3 CAPTION: COPYRIGHT 2010 ACS ON STM  
ACCESSION NUMBER: 20071119987 CAPTION: Full-text

DOCUMENT NUMBER: 1471436474  
TITLE: Organic-inorganic composite phosphorus used in organic electroluminescent device and its preparation

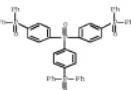
RE: 068520-14-3 CAPTION

CH Phosphine oxide, tri[4-(bis[4-methylphenyl]phosphinyl)phenyl]- (CA INDEX NAME)



(electron transport layer; organic-inorganic composite semiconductor material, liquid material, organic light emitting element, method of manufacturing organic light emitting element)

CH Phosphine oxide, tri[4-(diphenylphosphinyl)phenyl]- (CA INDEX NAME)



16. ANSWER 3 OF 3 CAPTION: COPYRIGHT 2010 ACS ON STM  
ACCESSION NUMBER: 20051179549 CAPTION: Full-text

DOCUMENT NUMBER: 1471436474 CAPTION: Organic compound containing phosphorus used in organic electroluminescent device and its preparation

INVENTOR(S): Goto, Tetsuyuki; Moto, Mitsuhiro; Hayashida, Tatsuyuki; Era, Masanori

PATENT ASSIGNEE(S): Ryohsu Electric Power Co., Inc., Japan; Daizen Co., Japan

SOURCE: PCT Int. Appl., 83 pp.

COUNTRY: FIXED

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACT. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005104628	A1	20051103	WO 2005-275511	20050420
WI 2006-120239	A	20060120	WI 2006-120239	20060120
CH 649,086	CH	20060120	CH 649,086	20060120
EP 1999 000 001	A	20090120	EP 1999-000001	20090120
JP 2009-115310	A	20090528	JP 2008-335000	20081227

PRIORITY APPLN. INFO.: KR 2007-10092166 A 20070402

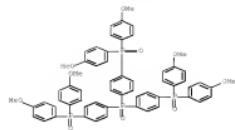
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LISTS DISPLAY FORMAT  
OTHER SOURCE(S): 1471436474

AB Organic-inorganic composite semiconductor material including material mainly made of an organic compound containing phosphorus and a metal complex containing an alkali earth metal ion and a rare-earth metal ion, and a chemical compound represented by the following general formula ( $(Ar_1)_2P(Ar_2)_3Ar_3PO$ , where  $Ar_1$  is an aryl group,  $Ar_2$  is an aryl group which may have a substituent group, and  $Ar_3$  is an aryl group which may have a substituent group) comprising an organic light emitting element having an electron transporting film comprising the organic-inorganic composite material, a hole transporting film, an anode, a cathode, and a phosphorescent layer, and  $Ar_1$ -bis( $Ar_2$ -phenyl)- $Ar_3$ -phosphine-oxazoline is also described.

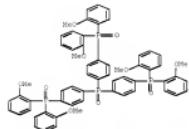
27. ANSWER 3 OF 3 CAPTION: COPYRIGHT 2010 ACS ON STM  
EL: TEM (Technical or engineered material use); USES (Uses)

RE: 174400-14-3 CAPTION: COPYRIGHT 2010 ACS ON STM  
CH 100512586 C 20090117 ER 2005-734415 20050420

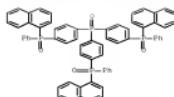
CH 100512586 C 2009



868520-17-6 CAPIUS  
Phosphine oxide, triis[4-(bis[2-methoxyphenyl]phosphinyl)phenyl]- (9CI)  
(CA INDEX NAME)

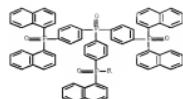


868520-21-2 CAPIUS  
Phosphine oxide, 14-[bis[4-(1-naphthalenyl)phenyl]phosphinyl]phenyl]-1-  
naphthalenylphosphine oxide (CA INDEX NAME)



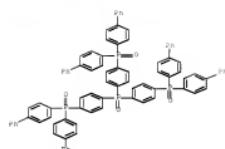
868520-22-3 CAPIUS  
Phosphine oxide, triis[4-(di-3-naphthalenyl)phenyl]phenyl]- (9CI) (CA  
INDEX NAME)

PAGE 1-B

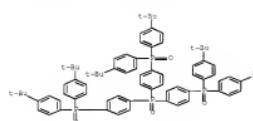


PAGE 2-A

868520-24-5 CAPIUS  
Phosphine oxide, triis[4-(bis[1,1'-biphenyl]-4-yl)phosphinyl]phenyl]-  
(9CI) (CA INDEX NAME)



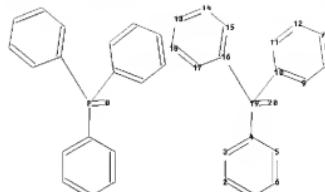
868520-26-7 CAPIUS  
Phosphine oxide, triis[4-(bis[4-(1,1-dimethylethyl)phenyl]phosphinyl)phenyl]- (9CI) (CA INDEX NAME)



86 CITING REF COUNT: 1 THERE ARE 1 CAPIUS RECORDS THAT CITE THIS RECORD  
(1 CITATION)  
REFERENCE COUNT: 3 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE PORTED

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ring nodes :  
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exact bonds :  
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normalized bonds :  
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LS 9545 SEA 222 FUL LT

>> file capus

>> a 18

19 7517 18

>> 19 and (electroluminescence or electroluminescent or (light emitting) or LED)

27061 ELECTROLUMINESCENCE

27062 ELECTROLUMINESCENCE

27066 ELECTROLUMINESCENCE  
(ELECTROLUMINESCENCE OR EKLEKTROLUMINESCENCS)

5 ELECTROLUMINESCENCE

27067 ELECTROLUMINESCENCE

9 ELECTROLUMINESCENCE  
OR EKLEKTROLUMINESCENCS

1359112 LIGHT

1359113 LIGHT

1359115 LIGHT  
(LIGHT OR LIGHTS)

144685 ELECTRICAL ENERGY

2371 EMISSIONS

1447331 EMISSIONS

1447332 EMISSIONS  
(EMISSION OR EMISSIONS)

19431 LIGHT EMITTING

(LIGHT OR EMISSIONS)

7829 GLASS

3076 GLASS

9794 GLASS

(GLASS OR GLASS)

L10 166 LD AND (ELECTROLUMINESCENCE OR ELECTROLUMINESCENT OR (LIGHT  
EMITTING) OR LED)

>> 110 and (ppr>205 or ay<205)

2818950 PPR>205

5543917 AY<205

L11 82 LD AND (TV>205 OR AT<205)

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L12 ANNEX 1 OF 92 CAPLOS CONFIRMIT 2010 AC9-03N 07N

ACCESSION NUMBER: 20071460519 CAPLOS Full-text

DOCUMENT NUMBER: 1447331

TITLE: organic electroluminescence display showing  
high light-emission, low voltage & long, stable  
lifetime

INVENTOR(S): Tobe, Tannasa; Tanaka, Hiroaki; Odechi, Toshihiko;

Rude, Tannasa; Yagi, Tomo;

Yamada, Toshiyuki; Ito, Toshi;

Jpn. Kokai Tokkyo Koho 10pp;

CODEN: JPOJO200701000000

DOCUMENT TYPE:

Patent

LANGUAGE: Japanese

PATENT COPIES: 1

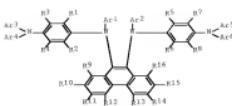
PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2007109988 A 2007-04-26 JP 2005-301171  
PRIOR ART JP 2005-301171  
OTHER DOCUMENTS  
GI MARPAT 144-051781

Z0051017 -->

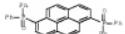
Z0051017



EP 934704-61-1 CAPLUS  
CB Phosphine oxide, bis[4-(2,5-diphenylhexyl)phenyl]- (CA INDEX NAME)



EP 934704-61-5 CAPLUS  
CB Phosphine oxide, 1,1'-(1,5-pyrenediyli)bis(1,1-diphenyl)- (CA INDEX NAME)



00 CITATION REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

L11 ANSWER 2 OF 32 CAPLUS COPYRIGHT 2010 ACS on STW  
ACCESSION NUMBER: 20071434025 CAPLUS Full-text

DOCUMENT NUMBER: 14614512715  
TITLE: Electroluminescent device using tetravalent organometallic compounds as hosts  
INVENTOR(S): Ben, Xiaolan Brown, Christopher T.  
PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
SOURCE: U.S. Pat. Appl. Publ., 20pp.

DOCUMENT TYPE: Patent  
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

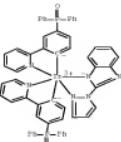
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WO 2007047129	A1	20070426	WO 2005-083899A1	20061105
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PATENT NO. KIND DATE APPLICATION NO. DATE  
 US 20070048546 A1 20070301 US 2005-216949 20050831 <>  
 US 1507494 S 20090324  
 WO 200501440 PCT 20040809 WO 2005-0523113 20050817  
 IN AE, AG, AL, AM, AT, AU, AZ, BA, BE, BG, BR, BY, BY, CR, CH,  
 CN, CO, CR, CU, DE, DK, DM, DS, ES, ES, FI, GR, GS,  
 HU, IS, IT, JP, KR, LV, LU, LT, LU, LV, LY, MD, ME, MG, MS,  
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 SE, SI, TR, TW, VE, ZA, ZM, ZW  
 RWI AT, BE, BG, CR, CY, DE, DK, DM, ES, FI, GR, GS,  
 HU, IS, IT, JP, KR, LV, LU, LT, LU, LV, LY, MD, ME, MG, MS,  
 MW, MY, MG, MA, MU, NL, ND, OM, PD, PL, PT, RU, RS,  
 SE, SI, TR, TW, VE, ZA, ZM, ZW  
 EP 1520479 A1 20080314 EP 2006-789821 20060817  
 PRIORITY APPLN. INFO.: US 2005-216949 A 20050831  
 WO 2005-052313 W 20060817  
 ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LISTS DISPLAY FORMAT  
 OTHER SOURCE(S): MNPAT 146151459  
 G1

•C{[2-(1H-pyrazol-1-yl)-1H-benzoimidazolato]•CH=}-  
 (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

AB 1-LCD devices are described which comprise a cathode, an anode, and located between them a layer containing a luminescent complex having a coordination formula (1), where M is a d-block transition metal of atomic number greater than 40, the coordination ring C is a trisubstituted ring with the metal as a center and three substituents R1, R2 and R3, each being a phenyl group or an alkyl-substituted phenyl group, and R1 and R2 are groups other than hydrogen as may be joined together; n1 and n2 are independently an integer from 0 to 6; L is a ligands; n3 is an integer from 0 to 6; and the emission wavelength of the blue-light-emitting LED based on a phosphorescent Iridium complex was demonstrated which had a CIE chromaticity coordinate of ( $x,y$ )=(0.15, 0.25) and a maximum efficiency of 10.2%.

II 9,071,407 2002-07-16  
 ELI PFP (Preparation); EPM (Synthetic preparation); TEM (Technical or engineered material use); TPEP (Preparation); USES (Uses)  
 (blue-emitting organic electroluminescent devices based on phosphorescent transition metal complexes)

SN 929674-91-3 CAPLUS  
 CN Pyridine, 2-[3-(diphenylphosphinyl)phenyl]- (CA INDEX NAME)

EP 1520479 A1 20080314 EP 2006-789821 20060817  
 PRIORITY APPLN. INFO.: US 2005-216949 A 20050831  
 WO 2005-052313 W 20060817  
 ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LISTS DISPLAY FORMAT  
 OTHER SOURCE(S): MNPAT 146151459  
 G1

TITLE: Fluorescent complex and lighting system using the same  
 INVENTOR(S): Iwamuro, Hiroaki; Amano, Atsushi; Aida, Fumihiko; Kuboshita, Kaishi; Tomura, Jun  
 PATENT ASSIGNEE(S): U.S. Patent and Trademark Office, 12pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE  
 US 20070007884 A1 20070301 US 2006-471013 20060620  
 DE 20070102880 A 20070211 JP 2005-380421 20050821 <>  
 PRIORITY APPLN. INFO.: JP 2005-380421 A 20050821  
 ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LISTS DISPLAY FORMAT  
 OTHER SOURCE(S): MNPAT 146151459  
 AB A lighting system comprising a cathode, an anode, earth atom and a ligand having a structure comprising a plurality of coordinating groups bonded to each other in a ring form is described. An electroluminescent device using the structure comprising a plurality of coordinating groups bonded to each other in a ring form is also described. A cellular phone comprising the fluorescent complex is also described. A cellular phone with the complex system is also described.

II 9,071,407 2002-07-16  
 ELI TEM [Technical or engineered material use]; USES [Uses]  
 (guest material for fluorescent material; fluorescent complex and light-emitting organic electroluminescent device using the same)  
 SN 3645-02-6 CAPLUS  
 CN European, triakis(4,4,4-trifluoro-1-phenyl-1,3-butenedionato-  
 vinyl)(4,4,4-trifluoro-1-phenylphosphino-oxide)-  
 vinyl(4,4,4-trifluoro-1-phenylphosphino-oxide)-  
 vinyl(4,4,4-trifluoro-1-phenylphosphino-oxide)- (CA INDEX NAME)



LII ADNER 7 OF 92 CAPLUS CONTINENTAL 2006-1251513 CAPLUS Full-text  
 DOCUMENT NUMBER: 3341-63-6  
 CODE: 032600

TITLE: Light-emitting device containing  
 bis-phosphine oxide  
 INVENTOR(S): Ren, Xiaodan; Gleiter, David J.  
 EASTMAN Kodak Company, USA  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE  
 US 2006-1251513 A1 20060712 US 2005-140929 20050531 <>

PRIORITY APPLN. INFO.: US 2005-140929 A 20050531  
 OTHER SOURCE(S): MNPAT 146151459

AB A light-emitting device which comprises an anode and cathode, wherein a layer between the anode and cathode contains an emissive material, wherein a layer between the anode and cathode contains a phosphine-oxide compound bearing two or more triphenylarylpheophenone groups, wherein the phosphine-oxide groups are selected to give a compound with a triplet state energy E<sub>T</sub>22 65 eV

II 9,071,407 2002-07-16  
 ELI PFP (Preparation); EPM (Synthetic preparation); TEM (Technical or engineered material use); TPEP (Preparation); USES [Uses]  
 (light-emitting device containing bis-phosphine oxide)

SN 3341-63-6 CAPLUS  
 CN Phosphine oxide, 1,1'-(1,4-phenylene)bis[1,1-diphenyl-

(CA INDEX NAME)

DOCUMENT NUMBER: 3341-63-6  
 CODE: 032600

PATENT NO. KIND DATE APPLICATION NO. DATE  
 US 2006-1251513 A1 20060712 US 2005-140929 20050531 <>

PRIORITY APPLN. INFO.: US 2005-140929 A 20050531  
 OTHER SOURCE(S): MNPAT 146151459

AB A light-emitting device which comprises an anode and cathode, wherein a layer between the anode and cathode contains an emissive material, wherein a layer between the anode and cathode contains a phosphine-oxide compound bearing two or more triphenylarylpheophenone groups, wherein the phosphine-oxide groups are selected to give a compound with a triplet state energy E<sub>T</sub>22 65 eV

II 9,071,407 2002-07-16  
 ELI PFP (Preparation); EPM (Synthetic preparation); TEM (Technical or engineered material use); TPEP (Preparation); USES [Uses]  
 (light-emitting device containing bis-phosphine oxide)

SN 3341-63-6 CAPLUS  
 CN Phosphine oxide, 1,1'-(1,4-phenylene)bis[1,1-diphenyl-

(CA INDEX NAME)

DOCUMENT NUMBER: 3341-63-6  
 CODE: 032600

PATENT NO. KIND DATE APPLICATION NO. DATE  
 US 2006-1251513 A1 20060712 US 2005-140929 20050531 <>

PRIORITY APPLN. INFO.: US 2005-140929 A 20050531  
 OTHER SOURCE(S): MNPAT 146151459

AB A light-emitting device which comprises an anode and cathode, wherein a layer between the anode and cathode contains an emissive material, wherein a layer between the anode and cathode contains a phosphine-oxide compound bearing two or more triphenylarylpheophenone groups, wherein the phosphine-oxide groups are selected to give a compound with a triplet state energy E<sub>T</sub>22 65 eV

II 9,071,407 2002-07-16  
 ELI PFP (Preparation); EPM (Synthetic preparation); TEM (Technical or engineered material use); TPEP (Preparation); USES [Uses]  
 (light-emitting device containing bis-phosphine oxide)

SN 3341-63-6 CAPLUS  
 CN Phosphine oxide, 1,1'-(1,4-phenylene)bis[1,1-diphenyl-

(CA INDEX NAME)

DOCUMENT NUMBER: 3341-63-6  
 CODE: 032600

PATENT NO. KIND DATE APPLICATION NO. DATE  
 US 2006-1251513 A1 20060712 US 2005-140929 20050531 <>

PRIORITY APPLN. INFO.: US 2005-140929 A 20050531  
 OTHER SOURCE(S): MNPAT 146151459

AB A light-emitting device which comprises an anode and cathode, wherein a layer between the anode and cathode contains an emissive material, wherein a layer between the anode and cathode contains a phosphine-oxide compound bearing two or more triphenylarylpheophenone groups, wherein the phosphine-oxide groups are selected to give a compound with a triplet state energy E<sub>T</sub>22 65 eV

II 9,071,407 2002-07-16  
 ELI PFP (Preparation); EPM (Synthetic preparation); TEM (Technical or engineered material use); TPEP (Preparation); USES [Uses]  
 (light-emitting device containing bis-phosphine oxide)

SN 3341-63-6 CAPLUS  
 CN Phosphine oxide, 1,1'-(1,4-phenylene)bis[1,1-diphenyl-

(CA INDEX NAME)

DOCUMENT NUMBER: 3341-63-6  
 CODE: 032600

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 US 2006-1251513 A1 20060712 US 2005-140929 20050531 <>

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REFERENCE COUNT: 12 TRADE ASR 12 CITED REFERENCES AVAILABLE FOR THIS RECORD - ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 82 CAPLOS COPYRIGHT 2010 ACS ON STM 200611262567 CAPLOS Full-text

ACCESSION NUMBER: 120611262567

DOCUMENT NUMBER: 120611262567

TITLE: Multicyclic compounds for organic electronic devices and their use and the devices

INVENTOR(S): Wenzel, Stephan; Klemm, Stephan; Rausch, Philipp; Roswag, Armin; Parthen, Alexander; Fortte, Rocco

PATENT ASSIGNEE(S): Merck Patent GmbH, Germany

PCT Filing Date: 2004-07-13 Pyy

DOCUMENT TYPE: Patent

LANGUAGES: German

FAMILY ACN: H01L 33/00; H01L 33/02; H01L 33/04

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

WO 200611262560 A1 200611262560 200604231

DE 10 2005 023437 A1 200611262560 200604231

EP 162005023437 A1 200611262560 200604231

US 200611262561 A1 200611262561 200604231

CA 2608765 A1 200611262561 200604231

EP 162006015883 A1 200611262561 200604231

KR 2006015883 A1 200611262561 200604231

BR 102005023437 A1 200611262561 200604231

WO 200611262562 A1 200611262562 200604231

DE 10 2005 023437 A1 200611262562 200604231

EP 162005023437 A1 200611262562 200604231

US 200611262563 A1 200611262563 200604231

CA 2608766 A1 200611262563 200604231

EP 162006015883 A1 200611262563 200604231

KR 2006015883 A1 200611262563 200604231

BR 102005023437 A1 200611262563 200604231

WO 200611262564 A1 200611262564 200604231

DE 10 2005 023437 A1 200611262564 200604231

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US 200611262565 A1 200611262565 200604231

CA 2608767 A1 200611262565 200604231

EP 162006015883 A1 200611262565 200604231

KR 2006015883 A1 200611262565 200604231

BR 102005023437 A1 200611262565 200604231

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US 200611262567 A1 200611262567 200604231

CA 2608768 A1 200611262567 200604231

EP 162006015883 A1 200611262567 200604231

KR 2006015883 A1 200611262567 200604231

BR 102005023437 A1 200611262567 200604231

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DE 10 2005 023437 A1 200611262568 200604231

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CA 2608769 A1 200611262569 200604231

EP 162006015883 A1 200611262569 200604231

KR 2006015883 A1 200611262569 200604231

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DE 10 2005 023437 A1 200611262570 200604231

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US 200611262571 A1 200611262571 200604231

CA 2608770 A1 200611262571 200604231

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KR 2006015883 A1 200611262571 200604231

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DE 10 2005 023437 A1 200611262572 200604231

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US 200611262573 A1 200611262573 200604231

CA 2608771 A1 200611262573 200604231

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KR 2006015883 A1 200611262573 200604231

BR 102005023437 A1 200611262573 200604231

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DE 10 2005 023437 A1 200611262574 200604231

EP 162005023437 A1 200611262574 200604231

US 200611262575 A1 200611262575 200604231

CA 2608772 A1 200611262575 200604231

EP 162006015883 A1 200611262575 200604231

KR 2006015883 A1 200611262575 200604231

BR 102005023437 A1 200611262575 200604231

WO 200611262576 A1 200611262576 200604231

DE 10 2005 023437 A1 200611262576 200604231

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CA 2608773 A1 200611262577 200604231

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BR 102005023437 A1 200611262577 200604231

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CA 2608774 A1 200611262579 200604231

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KR 2006015883 A1 200611262579 200604231

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CA 2608776 A1 200611262583 200604231

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KR 2006015883 A1 200611262583 200604231

BR 102005023437 A1 200611262583 200604231

WO 200611262584 A1 200611262584 200604231

DE 10 2005 023437 A1 200611262584 200604231

EP 162005023437 A1 200611262584 200604231

US 200611262585 A1 200611262585 200604231

CA 2608777 A1 200611262585 200604231

EP 162006015883 A1 200611262585 200604231

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CA 2608778 A1 200611262587 200604231

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DE 10 2005 023437 A1 200611262588 200604231

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US 200611262589 A1 200611262589 200604231

CA 2608779 A1 200611262589 200604231

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CA 2608781 A1 200611262593 200604231

EP 162006015883 A1 200611262593 200604231

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WO 200611262594 A1 200611262594 200604231

DE 10 2005 023437 A1 200611262594 200604231

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CA 2608782 A1 200611262595 200604231

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KR 2006015883 A1 200611262595 200604231

BR 102005023437 A1 200611262595 200604231

WO 200611262596 A1 200611262596 200604231

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EP 162006015883 A1 200611262597 200604231

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WO 200611262598 A1 200611262598 200604231

DE 10 2005 023437 A1 200611262598 200604231

EP 162005023437 A1 200611262598 200604231

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CA 2608784 A1 200611262599 200604231

EP 162006015883 A1 200611262599 200604231

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REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 10 OF 82 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 2006-1013002 CAPLUS Full-text

DOCUMENT NUMBER: 145130649

TITLE: Lighting device, image pickup apparatus and portable terminal unit

INVENTOR(S): Iwanaga, Hirooichi; Amano, Akio; Shimamura, Kenji; Otsuka, Katsushi

ASSIGNEE(S): Kobayashi Kalaha Tochiba, Japan

SOURCE: USPTO Appl. Publ. 15 pp

CODES: US2006

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

US 20060224530 AI 20060928 US 2006-348412 20060928

US 7111740 B2 20091103

JP 4305944 B2 20090212

JP 4305944 A2 20090205

PRIORITY APPLN. INFO.: JP 2005-92289 A 20050528

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LONG DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 145130649

AB A lighting device is described comprising a supporting member, a light emitting element disposed on the supporting member, a first fluorescent layer containing an organic phosphor and disposed on the supporting member, a second fluorescent layer containing an organic phosphor and disposed on the supporting member, wherein the second fluorescent layer is disposed to cover the upper and side surfaces of the light emitting element, and the first fluorescent layer is disposed on the side surface of the light emitting element with the second fluorescent layer being interposed between the light emitting element and the light emitting element, the image pickup device comprising the lighting device is also described. A portable terminal unit comprising the image pickup element is also described.

12 NO. 20060224530 AI 20060928

RE1 DEV (Device component used); US65 (Class)

(Lighting device, image pickup apparatus using phosphor layers)

EP 1730700 A1 20060928

ES 2330000 A1 20060928

EP 1730700 A2 20090212

EP 1730700 A3 20090212

EP 1730700 A4 20090212

EP 1730700 A5 20090212

EP 1730700 A6 20090212

EP 1730700 A7 20090212

EP 1730700 A8 20090212

EP 1730700 A9 20090212

EP 1730700 A10 20090212

EP 1730700 A11 20090212

EP 1730700 A12 20090212

EP 1730700 A13 20090212

EP 1730700 A14 20090212

EP 1730700 A15 20090212

EP 1730700 A16 20090212

EP 1730700 A17 20090212

EP 1730700 A18 20090212

EP 1730700 A19 20090212

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EP 1730700 A21 20090212

EP 1730700 A22 20090212

EP 1730700 A23 20090212

EP 1730700 A24 20090212

EP 1730700 A25 20090212

EP 1730700 A26 20090212

EP 1730700 A27 20090212

EP 1730700 A28 20090212

EP 1730700 A29 20090212

EP 1730700 A30 20090212

EP 1730700 A31 20090212

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EP 1730700 A33 20090212

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EP 1730700 A36 20090212

EP 1730700 A37 20090212

EP 1730700 A38 20090212

EP 1730700 A39 20090212

EP 1730700 A40 20090212

EP 1730700 A41 20090212

EP 1730700 A42 20090212

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EP 1730700 A44 20090212

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EP 1730700 A46 20090212

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EP 1730700 A200 20090212

EP 173

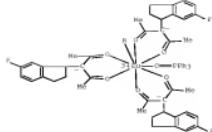


KM 904355-96-2 CAPI-8  
 CS Oligomeric, tria(6,6,7,7,8,8,8-heptafluoro-2,2-di(methyl-d3)-6-(1-phenylethyl)-3,5-octanedione-1,1,1-d3)-ato-  
 xo,<sup>13</sup>C11(tri(pheophenyl)phosphine oxide-W) - (9CI) (CA  
 INDEX NAME)



NN 906356-00-1 CAPI08  
 CN Europium, tri(3-(6-fluoro-2,3-dihydro-1H-inden-1-yl)-2,4-pentanedionato-  
 $\kappa$ O)<sup>3+</sup>(trietylphosphine oxide- $\kappa$ O)(triphenylphosphine  
 oxide- $\kappa$ O)<sup>-</sup> (9CI) (CA INDEX NAME)

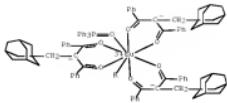
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KN 306356-01-2 CAPLHS  
 CN Europium triis[1,3-diphenyl-2-(tricyclo[3.3.1.13,7]dec-1-ylmethoxy)-1,3-propanedionato- $\kappa$ O, $\kappa'$ O'](triOctylphosphine oxide- $\kappa$ O)[triphenylphosphine oxide- $\kappa$ O]- (9CI) (CA INDEX NAME)

$$\begin{array}{c} \text{Me} - (\text{CH}_2)_7 \\ | \\ \text{Me} - (\text{CH}_2)_7 - \boxed{\text{C}} - \text{O} \\ | \\ \text{Me} - (\text{CH}_2)_7 \end{array}$$

PAGE 2-6



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PAGE 2-A

OR CITING PEP COUNT: 1 THERE IS 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

L11 ANSWER 13 OF 82 CAPLUS CONTRACT 2010 ACS ON STN  
ANSWER NUMBER: 148179377 CAPLUS Fulltext  
SEARCH NUMBER: 148179377  
INVENTOR(S): Portable flash apparatus for optical imaging sensor  
Takao, Toshiaki; Masaki, Harada, Ryoichi;  
Kazuhiko, Tomonori; Shunseki, Kenji  
PATENT ASSIGNEE(S): Toshiba Corp., Japan  
SOURCE: JPO  
COPEN: JP2009-180000, 18 p.  
DOCUMENT TYPE: Patent  
PUBLICATION DATE: 2009-01-21  
FAMILY ACC NOM. COUNT: 1

PATENT INFORMATION

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
202612636771	A	20060727	JP 2005-2223	20050114 <<
PRC102612636771			JP 2005-2223	
OTHER NUMBER	WANPAT 1451717505			

AS The invention relates to a portable flash apparatus for an optical imaging device such as a digital camera or a mobile phone. The portable flash device composed of a UV- or blue-emitting LED chip and a red-emitting phosphor; and 2nd flash area containing a 2nd light-emitting device composed of a blue-emitting LED chip and a green-emitting phosphor. The portable flash apparatus provides good light intensity and color rendering for

IT a camera apparatus  
S:001145  
RL: DEV (Device component used); USES (Uses)  
(portable flash apparatus for optical imaging sensor)  
NR: 863671-21-0 CAPLUS

CSI European, triis(6,6,7,7,8,8,9-heptafluoro-2,2-dimethyl-3,5-octanedionato- $\kappa$ O<sub>3</sub>, $\kappa$ O<sub>5</sub>)(trioctylphosphine oxide- $\kappa$ O<sub>1</sub>)(triphenylphosphine oxide- $\kappa$ O<sub>1</sub>) (CA INDEX NAME)

L11 ANSWER 14 OF 82 CAPTION COPYRIGHT 2010 ACS ON ETM  
ACCESSION NUMBER: 2006156650 CAPTION *Fu, Lihua et al.*  
DOCUMENT NUMBER: 1451480121  
TITLE: Preparation of rare earth complexes with allylene  
bis(1,3-diphenylphosphine) and acetylecetonate ligands  
INVENTOR(S): Huang, Wei; Xu, Hui  
PATENT ASSIGNER(S): Fudan University, PEP. Rep. China  
SOURCE: Fudan Zhanli Shenqing Gongkai Shoucezhu, 17 pp  
COUNTRY: CHINA  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
FAMILY ACC. HRW. COUNT: 1

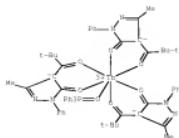
PATENT NO:	KIND	DATE	APPLICATION NO	DATE
CN 1687080	A	20051026	CN 2005-10025081	20050414 <
PRIORITY APPLN. IMPO. 1			CN 2005-10025081	20050414
TELEGRAMS 14.4.2005			RECEIVED 14.4.2005	

All The title compounds with a general formula 1, wherein Ar1, to Ar3 are heterocyclic, aryl, or alkylaryl, and their derivs substituted with alkyl, haloalkyl, haloalkyl, halogen, or alkylaryl; R1 to R3 are *rupo*, alky, haloalkyl, or alkylaryl; and R4 is *rupo*, alky, haloalkyl, or alkylaryl.





RE 333124-51-4 CARLOS  
Terbium(III) [2-(2,4-dimethyl-1-oxo- $\omega$ -propyl)-2,4-dihydro-3-methyl-2-phenyl-3H-pyrazole-3-onato- $\omega$ 3] (triphenylphosphine oxide- $\omega$ )-  
(CA INDEX NAME)



L11 NUMBER 20 OF 82 CARLOS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 200511266434 CARLOS Full Text

DOCUMENT NUMBER: 14496996  
TITLE: Tuning the triplet energy levels of pyrazoleone ligands to match the 5D0 level of europium(III)

AUTHOR(S): Shi, Meiz Li, Fuyun; Li, Tao; Shang, Dengleng; Hu, Hua; Wang, Jun; Chen, Xiang; Wang, Yiqian; Guo, Jia

CORPORATE SOURCE: Laboratory of Advanced Materials, Fudan University, Shanghai, 200433, Pwp. Rep. China

SOURCE: Inorganic Chemistry (2005), 44(24), 8929-8936

PUBLISHED: October 2005

DOCUMENT TYPE: Article

LANGUAGE: English

ABSTRACT: Pyrazoleone-based ligands, 1-phenyl-3-methyl-4-(1-naphthyl)pyrazole (HL1), 1-phenyl-3-methyl-4-(4-dimethylaminobenzoyl)-5-pyrazoleone (HL2), and 1-phenyl-3-methyl-4-(2-pyridonecarboxyl)-5-pyrazoleone (HL3) were synthesized and their luminescent properties and photoluminescence at the 4-position of the pyrazole ring. Their corresponding Eu complexes have been prepared and characterized by IR, ESR, and photophysical studies. The characteristic Eu(II,III) emission of these complexes with at most 9.2 ± 0.3 of fluorescent quantum yield was observed at room temperature. The luminescent properties of Eu(II,III) complexes of three pyrazoleone-based ligands to match the 5D0 energy level of Eu<sup>3+</sup> properly and improves the energy transfer efficiency from antenna to Eu<sup>3+</sup>, therefore enhancing the luminescent intensity and color purity. The luminescent efficiency and probability of lanthanide emission of Eu(L1)3(HL2)2 are 35.1% and 2.4%, resp., which opens up broad prospects for improving luminescent properties of Eu(II,III) complexes. The luminescent and photoelectroluminescent properties of Eu(L1)3(TPPO)(H2O) were also studied.

27 JP 2005-10-12-45  
RE: PCT (Preparation, unclassified); PEP (Properties); RCT (Reactant);

IT 8526505-73-2 CARLOS  
Europium, aquatin[4-(4-(dimethylaminobenzoyl)-5-methyl-3-phenyl-3H-pyrazole-3-onato- $\omega$ 3] (triphenylphosphine oxide- $\omega$ )-, (TFS-0-313'2'43''\*22\*\*)- (CA INDEX NAME)

EPK (Preparation); RCT (Reactant or reagent);  
(Complex with tuning the triplet energy levels of pyrazoleone ligands to match the 5D0 level of europium(III))

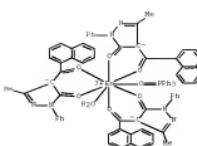
EN 756500-52-4 CARLOS

Europium, aquatin[4-(4-(dimethylaminobenzoyl)-5-methyl-3-phenyl-3H-pyrazole-3-onato- $\omega$ 3] (triphenylphosphine oxide- $\omega$ )- (CA INDEX NAME)



IT 8526505-73-2 CARLOS  
Europium, aquatin[4-(4-(dimethylaminobenzoyl)-5-methyl-3-phenyl-3H-pyrazole-3-onato- $\omega$ 3] (triphenylphosphine oxide- $\omega$ )-, (TFS-0-313'2'43''\*22\*\*)- (CA INDEX NAME)

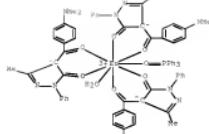
EN 756500-52-4 CARLOS  
Europium, aquatin[4-(2,4-dihydro-5-methyl-4-(1-naphthyl)benzoyl)-3-phenyl-3H-pyrazole-3-onato- $\omega$ 3] (triphenylphosphine oxide- $\omega$ )-, (TFS-0-313'2'43''\*22\*\*)- (CA INDEX NAME)



IT 872505-73-2 CARLOS

Europium, aquatin[4-(4-(dimethylaminobenzoyl)-5-methyl-3-phenyl-3H-pyrazole-3-onato- $\omega$ 3] (triphenylphosphine oxide- $\omega$ )-, (TFS-0-313'2'43''\*22\*\*)- (CA INDEX NAME)

PAGE 1-A



H<sub>Me2</sub>

PAGE 2-A

b<sub>x</sub>

PAGE 2-A

L11 NUMBER 21 OF 82 CARLOS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 200510200352 CARLOS Full Text

DOCUMENT NUMBER: 1431315109

TITLE: 1,4-phenylene substituted

INVENTOR(S): Mitsubishi Chemical Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp

CROSS REFERENCE:

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT DOCUMENT COUNT: 1

PATENT INFORMATION:

55 THERE ARE 35 CARBON RECORDS THAT CITE THIS RECORD (56 CITING)

56 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD (52 CITATIONS AVAILABLE IN THE RE FORMAT)

L11 NUMBER 21 OF 82 CARLOS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 200510200352 CARLOS Full Text

DOCUMENT NUMBER: 1431315109

TITLE: 1,4-phenylene substituted

INVENTOR(S): Mitsubishi Chemical Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp

CROSS REFERENCE:

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NUMBER:

PATENT NO.:

KIND:

DATE:

JP 2005255151 A 20050922 JF 2004-71404 20040315 <>

PRIORITY DATE: JPN 2004-09-22

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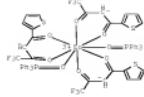
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L11. ANTHONY 32 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
INVENTOR NUMBER: 2009010164 CAPLUS Building  
DOCUMENT NUMBER: 1431275202  
TITLE: Red emission organic phosphor with broad excitation band based on lanthanide complexes with  $\beta$ -diketone and phosphine oxide ligands  
INVENTOR(S): Zhang, Xian; Tang, Xianting  
PATENT ASSIGNEE(S): Agency for Science, Technology and Research, Singapore  
SOURCE: U.S. PAT. APP. PUB., 12 PP  
COUNTRY: SINGAPORE  
DOCUMENT TYPE: Patent  
LANGUAGES: English  
FAMILY ACC. NOW. COUNT: 1  
PARENT RECORD NUMBER:

PATENT NO.: KINID DATE APPLICATION NO. DATE  
US 20050124898 A1 20050909 US 2005-49274 20050202 <>  
DE 10 2004 002 302 A1 20050209 DE 10 2004 002 302 20040204 <>  
PRIORITY APPLN. INFO.: US 2004-569 A 20040204  
ASSIGNMENT HISTORY FOR THIS PATENT AVAILABLE IN LOUD DISPLAY FORMAT  
THESE RECORDS ARE FOR PATENT NUMBER: US 20050124898  
AB Red-emitting phosphors of the general formula  $Ln(A_1\cdots A_8)(B_1)_2$  are synthesized and characterized, where  $Ln$  is a lanthanide series element,  $A$  is a  $\beta$ -diketone and/or a phosphine oxide,  $B$  is a phosphine oxide,  $A_1$  is a  $\beta$ -diketone,  $A_2$  is a  $\beta$ -diketone and/or a phosphine oxide,  $A_3$  is a phosphine oxide,  $A_4$  is a phosphine oxide,  $A_5$  is a phosphine oxide,  $A_6$  is a phosphine oxide,  $A_7$  is a phosphine oxide, and  $A_8$  is a phosphine oxide. The phosphors are prepared in a single step process where a lanthanide ion solution is added to a  $\beta$ -diketone and/or phosphine oxide mixture  $(Liq_1+Liq_2)$ . In devices employing the phosphors are also discussed.

II 12 "Py"=6- $\alpha$ -C<sub>6</sub>H<sub>4</sub>, complex with europium and methyltrifluoromethane  
T20 (Preparation); R20 (Properties); R20 (Preparation); R20 (Properties); R20 (Physical process); R20 (Synthetic preparation); T20 (Technical or engineered material use); R20 (Preparation); R20 (Process); USES (Uses)  
The invention concerns organic phosphors with broad excitation band based on lanthanide complexes with  $\beta$ -diketone and phosphine oxide ligands

NO 791-28-6 CAPLUS  
CN Phosphine oxide, triphenyl-, (CA INDEX NAME)



IT "Py"=6- $\alpha$ -C<sub>6</sub>H<sub>4</sub>, Triphenylphosphine oxide  
R20 (CTC (Reactant)); RACT (Reactant or reagent)  
(red emitting organic phosphor with broad excitation band based on lanthanide complexes with  $\beta$ -diketone and phosphine oxide ligands prepared using)

EP 791-28-6 CAPLUS  
CN Phosphine oxide, triphenyl-, (CA INDEX NAME)



L11. ANTHONY 23 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
INVENTOR NUMBER: 1431275202 CAPLUS Full-Text  
DOCUMENT NUMBER: 1431275202  
TITLE: Efficient synthetic route to achromatic nonmonocyclic tri(8-quinolinolato)lanthanum complexes for organic light-emitting diodes  
AUTHOR(S): Kozhevnikov, Marina A.; Kurkina, Tatyana A.; Fyuk, Georgy E.; Avruchikhin, Anatoly S.; Astanov, Alexei B.; Vlasova, Irina V.; Kostylev, Valerii E.; Gerasimov, G.A.; Resovskiy Institute of Organometallic Chemistry of RAS, Moscow, Russia; Institute of Macromolecular Chemistry Acta (Vysokomol. Soedin.), 36(23), 3625-3632  
PUBLISHER: COEUR, ICMAS; ISSN: 0920-1693  
DOCUMENT TYPE: Journal  
COUNTRY: Russia  
OTHER SOURCE(S): CARBON 143:43349  
AB A new lanthanoid  $\beta$ -quinalonato type structure was found for lanthanide complexes with 8-quinolinolates. The reaction of lanthanide nitrate with 2 equivalents of 8- $\alpha$ -hydroxyquinoline ( $Py$ ) and 4 equivalents of methanol. The mol of 1 contains three La atoms connected by three bridging quinalonato ligands, two terminal  $Py$ -coordinated  $Py$  ligands, one terminal  $Py$ -coordinated  $Py$  ligand and one bridging  $Py$ -coordinated  $Py$  ligand. IR and NMR spectra of the complex suggest that it is bearing a -1 charge balanced by a proton, which was confirmed by titration. The optical properties of the compound in solution and in pyridine solution is discussed. The system of wavebands and residual monochromic lanthanide quinalonato-Lu( $Py$ )<sub>2</sub> and Lu( $Py$ )<sub>3</sub> in pyridine solution is discussed. The reaction of lanthanide quinalonato-Lu( $Py$ )<sub>3</sub> with 3 equivalents of 2-methyl-6-hydroxyquinoline or 3-hydroxyquinoline in pyridine solution is also described. The complex Lu( $Py$ )<sub>3</sub>(H<sub>2</sub>O)<sub>3</sub> was prepared by treatment of 4 with triphenylphosphine oxide

FAMILY ACC. NOW. COUNT: 1  
PATENT INFORMATION:

PATENT NO. KINID DATE APPLICATION NO. DATE  
WO 2005075959 A1 20050818 JP 2005-310293 20052024 <>  
W1 EG, EG, AL, AM, AF, MS, BA, BE, BG, BR, BM, BY, CZ, DE, DK, ED,  
CH, CO, CR, CU, DE, DE, DM, DS, EC, ED, EG, ES, FI, FR, GE, GD,  
GE, GR, GU, HU, IL, IN, IS, KE, KR,  
LA, LS, LV, MA, ME, MT, MU, MU, MU, MU, MU, MU, MU, MU, MU,  
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ES DE  
CN 100137364 A 20070321 CN 2005-8000219 20052024 <>  
US 20070137364 A1 20070814 US 2007-388292 20072024 <>  
FR 2004-50173 A 20040206  
ASSIGNMENT HISTORY FOR THIS PATENT AVAILABLE IN LOUD DISPLAY FORMAT  
THE INVENTION relates to a light-emitting device (LED) having a high, stable light emission intensity, which is obtained when an LED or LD having an emission peak of 380 nm-410 nm is used as the exciting light source of a light-emitting device, the light emission intensity of a red phosphor having a maximum emission wavelength of 620 nm is balanced when mixed with blue and green phosphors is kept satisfactorily during the aging of the LED or LD, and the light-emitting device is characterized by comprising a phosphor having Eu<sup>2+</sup> as an emission center, a min emission intensity, within an excitation wavelength range of 380 nm-410 nm, a max emission intensity, within an excitation wavelength range of 380 nm-410 nm, and a max emission intensity at 620 nm, a low excitation intensity, and an emission efficiency at 400 nm of at least 25%, and a semiconductor light-emitting element that emits light in a near-UV ray through various light-emitting mechanisms.

II L11.23-0-0, tetraPhenylPhosphine  
R20 (Preparation); R20 (Synthetic preparation); R20 (Preparation); R20 (Properties); R20 (Preparation); R20 (Properties); R20 (Physical process); R20 (Lighting and lighting device using it, image display unit)  
CN 11312-0-8 CAPLUS  
R20 (Red emitting organic phosphor with broad excitation band based on 4,4'-bis(4- $\alpha$ -trifluoromethyl-1,3-butadieneoxy)-4,4'-bis(triphenylphosphine oxide)-WO<sub>3</sub>) (CA INDEX NAME)

in quinoline solution. Lanthanum complex I revealed a photoluminescence intensity approx. 3 + 103 times higher than that of the compound I prepared by annealing in water. These data give a ground to assume that the  $Py$ /Li<sub>2</sub> and  $Py$ /Li<sub>2</sub> complexes as promising material for design of a  $Py$ -based devices

II 12 "Py"=6- $\alpha$ -C<sub>6</sub>H<sub>4</sub>, complex with europium and methyltrifluoromethane  
T20 (Preparation); R20 (Properties); R20 (Preparation); R20 (Properties); R20 (Physical process); R20 (Synthetic preparation); T20 (Technical or engineered material use); R20 (Preparation); R20 (Process); USES (Uses)  
The invention concerns organic phosphors with broad excitation band based on lanthanide complexes with  $\beta$ -diketone and phosphine oxide ligands



II 12 "Py"=6- $\alpha$ -C<sub>6</sub>H<sub>4</sub>, Triphenylphosphine oxide  
R20 (CTC (Reactant)); RACT (Reactant or reagent)  
(reactant for preparation of lanthanide quinalonato triphenylphosphine oxide)

NO 791-28-6 CAPLUS  
CN Phosphine oxide, triphenyl-, (CA INDEX NAME)



OF CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS  
REFERENCE NUMBER: 2005082250 CAPLUS Full-Text  
REFERENCE COUNT: 21 THERE ARE 21 CITATION RECORDS AVAILABLE FOR THIS  
REFERENCE. ALL CITATIONS AVAILABLE IN THE RR FORMAT

L11. ANTHONY 24 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
INVENTOR NUMBER: 2005082250 CAPLUS Full-Text  
DOCUMENT NUMBER: 1431275202  
TITLE: Light-emitting device and lighting  
device using it, image display unit  
INVENTOR(S): Liang, Anqun; Murayama, Tetsuo  
PATENT ASSIGNEE(S): Mitsubishi Chemical Corporation, Japan  
SOURCE: PCT Int. Appl., 46 pp  
DOCUMENT TYPE: Patent  
LANGUAGES: Japanese









17 3-(4-(4-bromophenyl)phenyl)phosphine oxide  
Eliel RCT (Reactant); SPW (Synthetic preparation); PRP (Preparation); RACT (Reactant or reagent)  
Topics: Organic structures incorporating triplet emitters and their uses and electronic devices employing them  
RU 91063-52-4 CAPLOS  
CA Phosphine oxide, bis(4-bromophenyl)phenyl- (CA INDEX NAME)



06 CITING REF COUNT: 2 THERE ARE 2 CAPLOS RECORDS THAT CITE THIS RECORD  
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

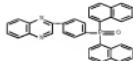
L11 ANSWER 30 OF 82 CAPLOS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: ZL20102703 CAPLOS Full-text  
DOCUMENT NUMBER: 1421363391  
TITLE: Organic electroluminescent device  
INVENTOR(S): Murase, Seiichi; Tomoda, Takeshi; Kitazawa,  
Takayuki  
PATENT ASSIGNEE(S): Toyota Industries, Inc., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.  
COCHE: J03KF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. HUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 20102703	ZL20102703	20100407	JP 2003-207260	20030812
PRIORITY APPLN. INFO.:				
AS	The invention relates to an organic electroluminescent device comprising an electron transporting layer containing a heterocyclic compound having a 5-membered ring in contact with an electroluminescent layer and a 2nd electron transporting layer in contact with a cathode, wherein the heterocyclic compound containing an electron-accepting group has a substituent on the 5-membered ring in the electron transporting layer for enhancing the quantum efficiency.			
17	$\text{C}_6\text{H}_5\text{CH}_2\text{Br} \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{O}\text{Br}$	12,700-03-5		
	$\text{C}_6\text{H}_5\text{CH}_2\text{Br} \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{O}\text{Br}$	20100911-06-1		
	JP00P1117-2-2			

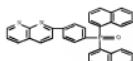
RU 91063-52-4 Device component used; US655 (Uses)  
electron transporting layer; organic electroluminescent device;  
RU 921969-93-3 CAPLOS  
CA Phenophosphine oxide, phenylid-1-pyrenyl- (CA INDEX NAME)



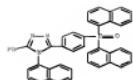
RU 921969-96-6 CAPLOS  
CA Quinoxaline, 2-[4-(d-1-naphthalenylphosphinyl)phenyl]- (CA INDEX NAME)



RU 924755-04-4 CAPLOS  
CA 1,0-Naphthyridine, 2-[4-(d-1-naphthalenylphosphinyl)phenyl]- (CA INDEX NAME)



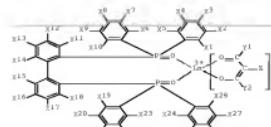
RU 924755-05-6 CAPLOS  
CA 2,3'-Bipyrindine, 6-[4-(d-1-naphthalenylphosphinyl)phenyl]-4-phenyl- (CA INDEX NAME)



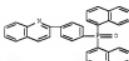
L11 ANSWER 31 OF 82 CAPLOS COPYRIGHT 2010 ACS on STM

ACCESSION NUMBER: 2005275700 CAPLOS Full-text  
DOCUMENT NUMBER: 1421363391  
TITLE: Rare earth (III)-[4-(naphthalenylphosphinyl)biphenyl] acetato lanthanide phosphors showing high luminescence intensity, and lasers, optical materials, and light-emitting devices using the same  
INVENTOR(S):  
PATENT ASSIGNEE(S): Kansei Technology Licensing Organization Co., Ltd., Tokyo, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp  
COCHE: J03KF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. HUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005082529	A	20050331	JP 2003-315948	20030908
PRIORITY APPLN. INFO.:				
17	02 200501202	200501202	JP 2003-315948	20030908
PRIORITY SOURCE(S):	WO/PAT 1421363391			
01				



RU 940901-56-1 CAPLOS  
Quinoline, 2-[4-(d-1-naphthalenylphosphinyl)phenyl]- (CA INDEX NAME)



RU 940901-57-0 CAPLOS  
4H-1,3,2-Triazole, 3-[4-(d-1-naphthalenylphosphinyl)phenyl]-4-(1-naphthalenyl)phenyl- (CA INDEX NAME)

All The phosphors are I (Ln = rare earth element; X1-X2H = H, O, halo, Cl-20 substituent, etc.; Y1-Y2 = Cl-20 substituent, NH, NO2, etc.; Z = H, D). Thus, I (Ln = Eu; X1-X2 = H, Y1 = Y2 = CF3, Z = O) showed sharp fluorescent peak at 614 nm [Industrial manufacturer]; RCT (Reactant); PRP (Preparation); RACT (Reactant or reagent); A (Additive); (2-iodophenyl)phenylphosphine oxide; phenylphosphine showing high luminescence intensity for lasers, optical materials, and solid-state lighting devices).

EEI IMP [Industrial manufacturer]; RCT (Reactant); PRP (Preparation); RACT (Reactant or reagent); A (Additive); (2-iodophenyl)phenylphosphine oxide; phenylphosphine showing high luminescence intensity for lasers, optical materials, and solid-state lighting devices)

EEI IMP [Industrial manufacturer]; RCT (Reactant); PRP (Preparation); RACT (Reactant or reagent); A (Additive); (2-iodophenyl)phenylphosphine oxide; phenylphosphine showing high luminescence intensity for lasers, optical materials, and solid-state lighting devices)

CH Phosphine oxide, (2-iodophenyl)phenyl- (CA INDEX NAME)



22 174467-54-0 CAPIUS  
CH Phosphine oxide, 1,1'-[1,1'-biphenyl]-2,2'-diylbis[1,1-diphenyl- (CA INDEX NAME)



22 191-39-4 Triphenylphosphine oxide  
EEI RCT (Reactant); RACT (Reactant or reagent)  
(rare earth (bis(diphenylphosphinyl)biphenyl)(acetylacetone) phosphine showing high luminescence intensity for lasers, optical materials, and solid-state lighting devices)

CH Phosphine oxide, triphenyl- (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE PORTER

L11 ANSWER 33 OF 62 CAPIUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005000174214 CAPLUS

DOCUMENT NUMBER: 1421486234

TITLE: Low-cost LED devices based on hyperbranched polymers with lanthanide ions

INVENTOR(S): Vitanovskiy, Alexei Kirivashlykovi, Sergei

PATENT ASSIGNEE(S): Altair Center, Llc., USA

DE PCT Int. Appl. Publ. 18 pp.

CODES: US6000

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

US 200500017429 A1 20050127 US 2003-623031 20030722 -->

PRIORITY APPLN. INFO.: US 2003-623011 2003-623011 20030722 -->

AB A method for making hole-injecting devices comprising a periphery which comprises an active emitting layer, a hole-injecting electrode, a hole transfer layer, an electron-injecting electrode, and an electron transfer layer in which the hole transfer layer is located between the hole-injecting electrode and the active emitting layer, and the electron transfer layer is located between the electron-injecting electrode and the active emitting layer, and a locus with good energy accepting properties and high light emitting efficiency embedded into a periphery with high electronic excitation and energy donating properties, the locus being a lanthanide ion, the energy transfer from the periphery states via the electron-hole recombination process followed by electronic excitation energy transfer from the periphery to the locus (antenna effect) and the energy transfer from the locus to the active emitting layer, the locus comprises lanthanide 3+ ions, the periphery has hyperbranched dendimer-like architecture providing efficient energy transfer, and spatial separation of the electron-injecting electrode and the electron transfer layer is achieved by a hyperbranched polymer having a core concentration self-quenching effect.

22 EEI CIV (Device component used); SSW (synthetic preparation); PRP (Preparation); URG (Use);  
I (Invention); LED devices based on lanthanide ions with dendrimers or hyperbranched polymers)

CH 69109-38-8 CAPIUS

CH Terbium, tri[2-(hydroxy- $\omega$ -benzoate)- $\omega$ ]bis[1-triphenylphosphine oxide- $\omega$ ]- (CA INDEX NAME)

L11 ANSWER 32 OF 62 CAPIUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005-123863 CAPLUS Full-text

DOCUMENT NUMBER: 1421486233

TITLE: Extremely low-voltage driving of organic light-emitting diodes with a Cs-shaped phosphorus oxide as electron-injection layer

AUTHOR(S): Oyamada, Takahiro; Sasaki, Toshiaki; Matsui, Chiharu

CORPORATE SOURCE: Department of Photonics Materials Science, Chitose

Institute of Science and Technology (CIST), Chitose,

Applied Physics Letters (APL), 86(3),

033503 (2005) DOI: 10.1063/1.1748053

CROSS REFERENCE: ISBN: 0693-1953

American Institute of Physics

Journal

LANGUAGE:

We demonstrated the efficient electron injection and transport in organic light-emitting diodes (OLEDs) with a Cs-shaped phosphorus oxide as electron-injection layer (EEL) composed of a Cs and phenyltriphenylphosphine oxide (POzPh3) co-deposited layer. In particular, an EEL composed of a CsPOzPh3 layer with an atomic ratio of 1:2 demonstrated an extremely low driving voltage of 3.9 V, which is the lowest value among the reported values. The results of Kelvin probe and absorption measurements indicated that the formation of a Cs alkali layer at the Cs/POzPh3 interface and the charge-transfer coupling between the Cs and POzPh3 contributed to enhancing the efficiency of electron injection and transport, respectively.

IT EEL (Electron-emitting layer); DEV (Device component used); FPD (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USK (Use);

EEI CTS (Chemical process); DEV (Device component used); FPD (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USK (Use);

OPOzPh3, extremely low-voltage driving of organic light-emitting diodes with Cs-shaped phosphorus oxide as electron-injection layer

CH 721969-93-3 CAPIUS

CH Phosphine oxide, phenyldi-1-pyranyl- (CA INDEX NAME)



L11 ANSWER 31 OF 62 CAPIUS

ACCESSION NUMBER: 2005000174213 CAPLUS

DOCUMENT NUMBER: 1421486232

TITLE: Formation, preparation, USES (Uses)

INVENTOR(S): Vitanovskiy, Alexei Kirivashlykovi, Sergei

PATENT ASSIGNEE(S): Altair Center, Llc., USA

DE PCT Int. Appl. Publ. 18 pp.

CODES: US6000

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

US 200500017428 A1 20050127 US 2003-623031 20030722 -->

PRIORITY APPLN. INFO.: US 2003-623011 2003-623011 20030722 -->

AB A method for making hole-injecting devices comprising a periphery which

comprises an active emitting layer, a hole-injecting electrode, a hole transfer layer,

an electron-injecting electrode, and an electron transfer layer in which the

hole transfer layer is located between the hole-injecting electrode and the active

emitting layer, and the electron transfer layer is located between the electron-

injecting electrode and the active emitting layer, and a locus with good energy

accepting properties and high light emitting efficiency embedded into a

periphery with high electronic excitation and energy donating

properties, the locus being a lanthanide ion, the energy transfer from the

periphery states via the electron-hole recombination process followed by

electronic excitation energy transfer from the periphery to the locus (antenna

effect) and the energy transfer from the locus to the active emitting layer,

the locus comprises lanthanide 3+ ions, the periphery has hyperbranched

dendimer-like architecture providing efficient energy transfer, and spatial

separation of the electron-injecting electrode and the electron transfer layer is

achieved by a hyperbranched polymer having a core concentration self-

quenching effect.

22 EEI CIV (Device component used); SSW (synthetic preparation); PRP (Preparation); URG (Use);

I (Invention); LED devices based on lanthanide ions with dendrimers or hyperbranched polymers)

CH 69109-38-8 CAPIUS

CH Terbium, tri[2-(hydroxy- $\omega$ -benzoate)- $\omega$ ]bis[1-triphenylphosphine oxide- $\omega$ ]- (CA INDEX NAME)



L11 ANSWER 34 OF 62 CAPIUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005-134815 CAPLUS Full-text

DOCUMENT NUMBER: 1421486231

TITLE: Mixture of organic emissive semiconductors and matrix

comprising the materials

Benzene, Benzyl, Gerhard, Amay, Steenwill, Philipp

Vestebæk, Henrik, Veis, Stephan, Philipp

Covion Organic Semiconductors G.m.b.H., Germany

DE PCT Int. Appl. 41 pp.

CODES: PCTA02

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

DE 69109-38-8 A1 20050127 DE 10200500017429 20050722 -->

PRIORITY APPLN. INFO.: DE 2004-017429 2004-017429 20040722 -->

AB A mixture of organic emissive semiconductors and matrix

comprising the materials

Benzene, Benzyl, Gerhard, Amay, Steenwill, Philipp

Vestebæk, Henrik, Veis, Stephan, Philipp

Covion Organic Semiconductors G.m.b.H., Germany

DE PCT Int. Appl. 41 pp.

CODES: PCTA02

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:













SN 56Q106-43-6 CAP108  
CB Terbium, tris[4-(2-ethyl-1-(*exo*- $\omega$ )butyl]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-onato- $\omega$ ]triphosphine oxide- $\omega$ -( $\text{CH}_2$ -7-)-12'-(2'-3'-2')-(CA INDEX NAME)



05 CITING REF COUNT: 27 THERE ARE 27 CITED RECORDS THAT CITE THIS  
 RECORD (2 CITINGS)  
 REFERENCES COUNT: 0 NO REFERENCES ARE AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT  
  
 L11 ANSWER 49 OF 82 CACUS COPYRIGHT 2010 ACS AND STM  
 ACCESSION NUMBER: 201051907400 PUBLI Full-text  
 DOCUMENT NUMBER: 201051907400  
 TITLE: Phosphorus-lanthanide complexes with phosphine  
 oxides, phosphine oxide-anilides, pyridine-N-oxides,  
 $\text{Ph}_3\text{P}=\text{O}-\text{C}_6\text{H}_4-\text{N}(\text{Me})_2$ , and  $\text{Ph}_3\text{P}=\text{O}-\text{C}_6\text{H}_4-\text{N}(\text{Me})_2$   
 PREPARATION AND CHARACTERIZATION OF PHOSPHORUS-LANTHANIDE COMPLEXES WITH PHOSPHINE OXIDES, PHOSPHINE OXIDE-ANILIDES, PYRIDINE-N-OXIDES, AND PHOSPHINE OXIDE-CYANIDE ANILIDES. AND A4-47.  
 PREPARATION AND CHARACTERIZATION OF PHOSPHORUS-LANTHANIDE COMPLEXES WITH PHOSPHINE OXIDES, PHOSPHINE OXIDE-ANILIDES, PYRIDINE-N-OXIDES, AND PHOSPHINE OXIDE-CYANIDE ANILIDES. AND A4-47.  
 Brashke, Vlada; Petrukhina, Olga; Petrukhin, Vlacheslav  
 Iaschenko, Hua; Nechaeva, Maria; Ying

electron transport materials) are also claimed. Cyclometalated iridium complexes derived from (homo)substituted 2-phenylpyridines are preferred.

17 **2-(2,3,4,5,6-pentafluorophenyl)phosphine oxide**

HPLC (Hewlett Packard) is used as reagent or reagents

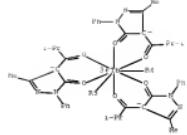
(coordination to luminescent lanthanide complexes)

18 **2723-11-5 CAPLUS**

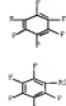
**C Phosphine oxide, tri(2,3,4,5,6-pentafluorophenyl)-** (CA INDEX NAME)

12 's) Acryl, Triphenylphosphine oxide  
 R1s RCT (Reactant); RACT (Reagent or reagent)  
 {for preparation of luminescent lanthanide  $\beta$ -enolate complexes containing  
 phosphine oxides and analogs}  
 R80 791-28-6 CAGUR  
 C8 Phosphine OXIDE, triphenyl- (CA INDEX NAME)

PATENT ASSIGNEE(S): E. I. Du Pont De Nemours and Company, US  
SOURCE: U S Pat. Appl. Publ., 18 pp  
CODE: USX00  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1



ANSWER



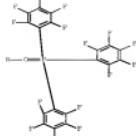
PAGE 2-A



PAGE 4-A



PAGE 2-A



PAGE 5-A



PAGE 3-A



563942-12-2 CAPLOS  
Europium, tri(4,4,4-trifluoro-2,5-dimethyl-3-hexenyl)phosphine oxide-m0-  
K2NO2'bis(triphenylphosphine oxide-m0)- (PC2) (CA INDEX NAME)

PAGE 1-A



PAGE 4-A



I

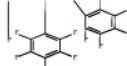
IT 4.1.076-01-02

RL: DEV (Device component used); PFM (Properties); SWN (Synthetic preparation); PREP (Preparation); URS (Uses)  
(preparation and luminescence as photoactive lanthanide complex for use in electronic devices)

4332046-41-8 CAPLOS  
Europium, tri(4,4,4-trifluoro-2,5-dimethyl-3-hexenyl)phosphine oxide-m0- (PC2) (CA INDEX NAME)



PAGE 2-A

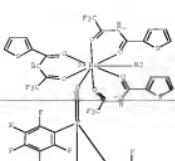


PAGE 3-A



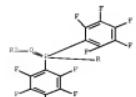
57 563942-11-9  
RL: DEV (Device component used); SWN (Synthetic preparation); PREP (Preparation); URS (Uses)  
(preparation as photoactive lanthanide complex for use in electronic devices)

563942-13-3 CAPLOS  
Europium, tri(4,4,4-trifluoro-2-(2-thienyl)-3-butyl)phosphine oxide-m0- (PC2) (CA INDEX NAME)



PAGE 1-A

PAGE 4-A



02 CITING REF COUNT: 3 THREE ARE 3 CAPLOS RECORDS THAT CITE THIS RECORD  
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD - ALL CITATIONS ARE IN THE RE FORMAT

L11 ADDRESS 50 OF 82 CAPLOS COPENHAGEN, DENMARK  
ACCESSION NUMBER: 2003100257 CAPLOS FULL-TEXT  
DOCUMENT NUMBER: 139108356  
TITLE: Efficient Lanthanide Luminescence From a New  
Tin(IV) Complex  
AUTHOR(S): Xing, Haoyi; Li, Pei You; Shi, Mei; Bian, Zou; Qiangyu, Huang;  
Chun, Hui

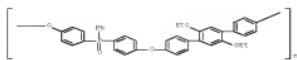








RR 371786-69-5 CAPLUS  
CN Poly[oxy-1,4-phenylene(phenylphosphinylidene)-1,4-phenyleneoxy-(2',5'-diethyl-[1,1':4",1"-terphenyl]-4,4"-diyl)] (SCL) (CA INDEX NAME)

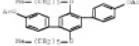


RR 371786-71-9 CAPLUS  
CN [1,1':4",1"-terphenyl]-4,4"-diol, 2',5'-bis(hexyloxy)-, diacetate, polymer with bis(4-fluorophenyl)phenylphosphine oxide (SCL) (CA INDEX NAME)

CN 1

CNN 371786-70-0

CMF C18 H34 O6



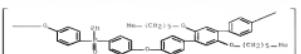
CN 2

CNN 54300-32-2

CMF C18 H33 F2 O P



RR 371786-72-0 CAPLUS  
CN Poly[oxy-1,4-phenylene(phenylphosphinylidene)-1,4-phenyleneoxy-(2',5'-bis(hexyloxy)-[1,1':4",1"-terphenyl]-4,4"-diyl)] (SCL) (CA INDEX NAME)

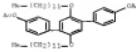


RR 371786-74-2 CAPLUS  
CN [1,1':4",1"-terphenyl]-4,4"-diol, 2',5'-bis(dodecylxy)-, diacetate, polymer with bis(4-fluorophenyl)phenylphosphine oxide (SCL) (CA INDEX NAME)

CN 1

CNN 371786-73-1

CMF C40 H66 O6



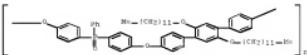
CN 2

CNN 54300-32-2

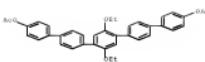
CMF C18 H33 F2 O P



RR 371786-75-3 CAPLUS  
CN Poly[oxy-1,4-phenylene(phenylphosphinylidene)-1,4-phenyleneoxy-(2',5'-bis(hexylxy)-[1,1':4",1"-terphenyl]-4,4"-diyl)] (SCL) (CA INDEX NAME)



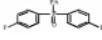
CMF C38 H34 O6



CN 2

CNN 54300-32-2

CMF C18 H33 F2 O P

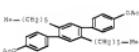


RR 371786-76-4 CAPLUS  
CN [1,1':4",1"-terphenyl]-4,4"-diol, 2',5'-diethyl-, diacetate, polymer with bis(4-fluorophenyl)phenylphosphine oxide (SCL) (CA INDEX NAME)

CN 1

CNN 141786-03-0

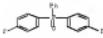
CMF C18 H34 O6



CN 2

CNN 54300-32-2

CMF C18 H33 F2 O P



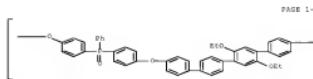
RR 371786-77-5 CAPLUS  
CN Poly[oxy-1,4-phenylene(phenylphosphinylidene)-1,4-phenyleneoxy-(2',5'-diethyl-[1,1':4",1"-terphenyl]-4,4"-diyl)] (SCL) (CA INDEX NAME)



RR 371786-78-6 CAPLUS  
CN [1,1':4",1"-terphenyl]-4,4"-diol, 2',5'-diethyl-, diacetate, polymer with bis(4-fluorophenyl)phenylphosphine oxide (SCL) (CA INDEX NAME)

CN 1

CNN 371786-66-2

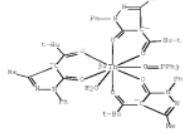


PAGE 1-A



PAGE 1-B





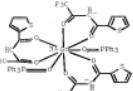
08 CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD  
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LII ANSWER 64 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2001147393 CAPLUS Full-text  
DOCUMENT NUMBER: 135153432  
TITLE: Phosphorescent emission from organic electroluminescent devices  
AUTHOR(S): Wu, Shetu; Zhang, Xiaomin; Suo, Runqiang; Li, Wenlian; Chen, Kangsheng  
CORPORATE SOURCE: Department of Information and Electronic Engineering, Hefei Jiaotong University, Hefei, Anhui, 230027, P.R. China  
SOURCE: Chinese Science Bulletin (P.R.C.), 21(1), 600-604  
PUBLISHER: Beijing Science Press  
DOCUMENT TYPE: Journal Article  
LANGUAGE: Chinese  
AB: A novel organic electroluminescent device with EuGd complex (Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>-Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>) was developed. The characteristics of this device were described as both fluorescence and phosphorescence were observed. This phenomenon is discussed in terms of yields of phosphorescence from Eu<sup>3+</sup> and Eu<sup>3+</sup> ions and the strong perturbation of the spin-orbit levels of the complexes. Both the photoluminescent and electroluminescent efficiencies at different temperatures were measured by the luminescence quenching technique. The results imply that the phosphorescent emission from the triplet excited state might be a new way to increase the theor. efficiency in organic EL devices.  
12 LII ANSWER 64 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2001147393 CAPLUS Full-text  
DOCUMENT NUMBER: 135153432  
TITLE: Energy transfer in organic electroluminescent devices  
AUTHOR(S): Wu, Shetu; Zhang, Xiaomin; Suo, Runqiang; Li, Wenlian; Chen, Kangsheng  
CORPORATE SOURCE: Department of Information and Electronic Engineering, Hefei Jiaotong University, Hefei, Anhui, 230027, P.R. China  
SOURCE: Chinese Science Bulletin (P.R.C.), 21(1), 613-615  
PUBLISHER: Beijing Science Press  
DOCUMENT TYPE: Journal Article  
LANGUAGE: Chinese  
AB: An electroluminescent device with complex of di(triphenylphosphine oxide-O-itril)-[2-(2-thienyl)-4,4,4-trifluoro-1,3-butanesulfone-O-O-]europium(III)gadolinium(III) (TTA1)(TPPO2) as light emitting material. 1,4-bis[2-(4-phenylphenyl)-4-phenylphenyl]benzene as electron transport material, and poly(N-vinylcarbazole) as a hole transport material was manufactured. The characteristics of the device and its electroluminescent spectra at 77 K and 300 K were measured. The energy transfer from the triplet state which caused by the strong disturbance of Gd<sup>3+</sup> to the spin orbit of ligand ions and the effective energy transfer between Eu<sup>3+</sup> and Eu<sup>3+</sup> increased the electroluminescent efficiency of the device.  
17 LII ANSWER 64 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2001147393 CAPLUS Full-text  
DOCUMENT NUMBER: 135153432  
TITLE: Proceedings of SPIE - The International Society for Optical Engineering  
SUBTITLE: Optoelectronic Materials and Devices, Vol. 4061, Thin Film Physics and Applications, 1999, 761-764  
PUBLISHER: SPIE  
DOCUMENT TYPE: Conference Paper  
LANGUAGE: English  
AB: A novel organic electroluminescent device with EuGd complex (Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>-Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>)(TPPO2) as an emitter is presented, and the characteristics of the device were studied. The phosphorescent emission from the device are observed. The phosphorescent intensity is proportional to the concentration of the triplet excited state of the Gd and Eu chelates due to the strong perturbation of the spin-orbit levels of the ligands by the paramagnetic Gd<sup>3+</sup> ions. Both the photoluminescent and electroluminescent efficiencies at different temperatures between 77 K and 300 K are measured by integrating sphere method. The author's results show that the phosphorescent emission from the triplets excited state can be used to increase the theoretical efficiency of organic electroluminescent devices.

EN 12121-29-9 CAPLUS  
Benzophenone, tri[4,4,4-trifluoro-1-(2-thienyl)-1,2-butanesulfonato-O,O',O'']bis(triphenylphosphine oxide-O)- (CA INDEX NAME: NHEC)



EN 300292-99-5 CAPLUS  
Gadolinium, tri[4,4,4-trifluoro-1-(2-thienyl)-1,2-butanesulfonato-O,O',O'']bis(triphenylphosphine oxide-O)- (SCA) (CA INDEX NAME: NHEC)



LII ANSWER 65 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2001147394 CAPLUS Full-text  
DOCUMENT NUMBER: 135153432  
TITLE: Energy transfer in organic electroluminescent devices  
AUTHOR(S): Wu, Shetu; Zhang, Xiaomin; Suo, Runqiang; Li, Wenlian; Chen, Kangsheng  
CORPORATE SOURCE: Department of Information and Electronic Engineering, Hefei Jiaotong University, Hefei, Anhui, 230027, P.R. China  
SOURCE: Chinese Science Bulletin (P.R.C.), 21(1), 613-615  
PUBLISHER: Beijing Science Press  
DOCUMENT TYPE: Journal Article  
LANGUAGE: Chinese

LII ANSWER 65 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2001147394 CAPLUS Full-text  
DOCUMENT NUMBER: 135153432  
TITLE: Phosphorescent emission from organic electroluminescent device  
AUTHOR(S): Wu, Shetu; Zhang, Xiaomin; Suo, Runqiang; Li, Wenlian; Chen, Kangsheng  
CORPORATE SOURCE: Department of Information and Electronic Engineering, Hefei Jiaotong University, Hefei, Anhui, 230027, P.R. China  
SOURCE: Chinese Science Bulletin (P.R.C.), 21(1), 613-615  
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DOCUMENT TYPE: Journal Article  
LANGUAGE: Chinese  
AB: An electroluminescent device with EuGd complex (Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>-Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>)(TPPO2) as an emitter is presented, and the characteristics of the device were studied. The phosphorescent emission from the device are observed. The phosphorescent intensity is proportional to the concentration of the triplet excited state of the Gd and Eu chelates due to the strong perturbation of the spin-orbit levels of the ligands by the paramagnetic Gd<sup>3+</sup> ions. Both the photoluminescent and electroluminescent efficiencies at different temperatures between 77 K and 300 K are measured by integrating sphere method. The author's results show that the phosphorescent emission from the triplets excited state can be used to increase the theoretical efficiency of organic electroluminescent devices.  
17 LII ANSWER 65 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2001147394 CAPLUS Full-text  
DOCUMENT NUMBER: 135153432  
TITLE: Proceedings of SPIE - The International Society for Optical Engineering  
SUBTITLE: Optoelectronic Materials and Devices, Vol. 4061, Thin Film Physics and Applications, 1999, 761-764  
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LANGUAGE: English  
AB: A novel organic electroluminescent device with EuGd complex (Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>-Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>)(TPPO2) as an emitter is presented, and the characteristics of the device were studied. The phosphorescent emission from the device are observed. The phosphorescent intensity is proportional to the concentration of the triplet excited state of the Gd and Eu chelates due to the strong perturbation of the spin-orbit levels of the ligands by the paramagnetic Gd<sup>3+</sup> ions. Both the photoluminescent and electroluminescent efficiencies at different temperatures between 77 K and 300 K are measured by integrating sphere method. The author's results show that the phosphorescent emission from the triplets excited state can be used to increase the theoretical efficiency of organic electroluminescent devices.

EN 300292-99-5 CAPLUS  
Gadolinium, tri[4,4,4-trifluoro-1-(2-thienyl)-1,2-butanesulfonato-O,O',O'']bis(triphenylphosphine oxide-O)- (SCA) (CA INDEX NAME: NHEC)

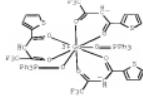


EN 300292-99-5 CAPLUS  
Gadolinium, tri[4,4,4-trifluoro-1-(2-thienyl)-1,2-butanesulfonato-O,O',O'']bis(triphenylphosphine oxide-O)- (SCA) (CA INDEX NAME: NHEC)

AB: An electroluminescent device with complex of di(triphenylphosphine oxide-O-itril)-[2-(2-thienyl)-4,4,4-trifluoro-1,3-butanesulfone-O-O-]europium(III)gadolinium(III) (TTA1)(TPPO2) as light emitting material. 1,4-bis[2-(4-phenylphenyl)-4-phenylphenyl]benzene as electron transport material, and poly(N-vinylcarbazole) as a hole transport material was manufactured. The characteristics of the device and its electroluminescent spectra at 77 K and 300 K were measured. The energy transfer from the triplet state which caused by the strong disturbance of Gd<sup>3+</sup> to the spin orbit of ligand ions and the effective energy transfer between Eu<sup>3+</sup> and Eu<sup>3+</sup> increased the electroluminescent efficiency of the device.  
12 LII ANSWER 65 OF 82 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2001147394 CAPLUS Full-text  
DOCUMENT NUMBER: 135153432  
TITLE: Proceedings of SPIE - The International Society for Optical Engineering  
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LANGUAGE: English  
AB: A novel organic electroluminescent device with EuGd complex (Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>-Eu<sup>3+</sup>(d<sub>0</sub>)<sup>2</sup>)(TPPO2) as an emitter is presented, and the characteristics of the device were studied. The phosphorescent emission from the device are observed. The phosphorescent intensity is proportional to the concentration of the triplet excited state of the Gd and Eu chelates due to the strong perturbation of the spin-orbit levels of the ligands by the paramagnetic Gd<sup>3+</sup> ions. Both the photoluminescent and electroluminescent efficiencies at different temperatures between 77 K and 300 K are measured by integrating sphere method. The author's results show that the phosphorescent emission from the triplets excited state can be used to increase the theoretical efficiency of organic electroluminescent devices.

EN 300292-99-5 CAPLUS  
Benzophenone, tri[4,4,4-trifluoro-1-(2-thienyl)-1,2-butanesulfonato-O,O',O'']bis(triphenylphosphine oxide-O)- (CA INDEX NAME: NHEC)





REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ASHNER 61 of 82 CAPLOS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 20011506 CAPLOS Full-text

DOCUMENT NUMBER: 1341287355 DOCUMENT TYPE: Article

TITLE: High-efficiency organic electroluminescent devices using an organophosphorus emitter  
AUTHOR(S): Copeland, Simon; Renault, Olivier; Moon, Dae-Hye; Heo, Jang-Sub; Christou, Vassilios; Marder, Peter J.; Salane, Oleg V.; Christou, Vassilios

CORPORATE SOURCE: Department of Engineering Science, University of Oxford, United Kingdom; Institute of Advanced Materials (Weismain, Germany) (WIM)

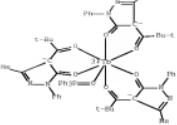
SOURCE: J. LUMIN. 121(2), 1981-1984  
ISSN: 0925-346X  
PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Device properties of a new organophosphorus phosphor (OLP) material for OELD devices are reported on. The preparation and characterization of an organophosphorus compound, triphenylphosphine-4-(3-methyl-4-(triphenylphosphoryl)-3-oxo)- (TPP = tri-(1-phenyl-3-methyl-4-(triphenylphosphoryl)-3-oxo)), gave peak luminescences of >2000 cd/m<sup>2</sup> and efficiencies >2.0 lm/W at 25 cd/m<sup>2</sup> and 14 V.

IT 21973-1/-6  
ELI DEV (Device component used); PRC (Physical, engineering or chemical process); PROG (Process); USES (Uses);  
High-efficiency organic electroluminescent device using organophosphorus emitter

EN 315121-49-6 CAPLOS  
C9 Terbius, tri[4-(2,2-dimethyl-1-(iso- $\omega$ -propoxy)-2,4-dihydro-5-methyl-2-phenyl- $\omega$ -pyrazin-3-one)- $\omega$ 3](triphenylphosphine oxide)- $\omega$ 1- (CA INDEX NAME)



GS CITING REF COUNT: 78 THERE ARE 78 CAPLOS RECORDS THAT CITE THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ASHNER 68 of 82 CAPLOS COPYRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 20011417 CAPLOS Full-text

DOCUMENT NUMBER: 1341287355 DOCUMENT TYPE: Article

TITLE: Efficient red electroluminescence from devices having multilayered emission complex  
AUTHOR(S): Christou, Vassilios; Salane, Oleg V.; Renault, Olivier; Heo, Jang-Sub; Christou, Vassilios

CORPORATE SOURCE: Research Center for Photoelectronics of Organic Materials, Osaka University, Osaka, 560-8531, Japan

SOURCE: Applied Physics Letters (Appl.), 91(26), 263504  
ISSN: 0003-6951  
PUBLISHER: American Institute of Physics

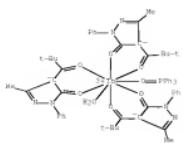
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB To get red electroluminescence from a Si complex with high efficiency, a hole-transport layer was inserted between the  $\lambda$ -complex layer and an anode electrode, and a hole-blocking layer was inserted between the  $\lambda$ -complexes and electron-transporting layers. To further improve the efficiency, devices having multilayered emission complex (MEC) structures were also fabricated. By stacking six units, the maximal luminescence and emission efficiency of the red emission were increased to more than twice that from a single  $\lambda$ -complex device.

IT 21973-1/-6  
ELI DEV (Device component used); PRC (Physical, engineering or chemical process); PROG (Process); USES (Uses);  
(efficient red electroluminescence from devices having  
multilayered emission complex)

EN 315121-49-6 CAPLOS  
C9 Terbius, tri[3,3-diphenyl-1,3-propandionato- $\omega$ 1- $\omega$ 3](triphenylphosphine oxide)- $\omega$ 1- $\omega$ 3- $\omega$ 2- $\omega$ 3- $\omega$ 4- $\omega$ 5- $\omega$ 6- $\omega$ 7- $\omega$ 8- $\omega$ 9- $\omega$ 10- $\omega$ 11- $\omega$ 12- $\omega$ 13- $\omega$ 14- $\omega$ 15- $\omega$ 16- $\omega$ 17- $\omega$ 18- $\omega$ 19- $\omega$ 20- $\omega$ 21- $\omega$ 22- $\omega$ 23- $\omega$ 24- $\omega$ 25- $\omega$ 26- $\omega$ 27- $\omega$ 28- $\omega$ 29- $\omega$ 30- $\omega$ 31- $\omega$ 32- $\omega$ 33- $\omega$ 34- $\omega$ 35- $\omega$ 36- $\omega$ 37- $\omega$ 38- $\omega$ 39- $\omega$ 40- $\omega$ 41- $\omega$ 42- $\omega$ 43- $\omega$ 44- $\omega$ 45- $\omega$ 46- $\omega$ 47- $\omega$ 48- $\omega$ 49- $\omega$ 50- $\omega$ 51- $\omega$ 52- $\omega$ 53- $\omega$ 54- $\omega$ 55- $\omega$ 56- $\omega$ 57- $\omega$ 58- $\omega$ 59- $\omega$ 60- $\omega$ 61- $\omega$ 62- $\omega$ 63- $\omega$ 64- $\omega$ 65- $\omega$ 66- $\omega$ 67- $\omega$ 68- $\omega$ 69- 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33 Ternium, aquatris(4-(2,2-dimethyl-1-(oxo- $\omega$ -0)propyl)-2,4-dihydro-5-methyl-2-phenyl-3-pyranol-3-oxato- $\omega$ O)(triphenylphosphine oxide)- $\omega$ O- (CA INDEX NAME)



00-CITING REF COUNT: 13 THERE ARE 13 CAPTION RECORDS THAT CITE THIS RECORD (13 CITINGS)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 71 OF 82 CAPTION COPYRIGHT 2010 ACS ON EIN 2000155694 CAPTION Full-text

DOCUMENT NUMBER: 1341212626

TITLE: Eu(III)-Luminous materials from an organic europium complex with a triphenylphosphine oxide ligand

AUTHOR(S): Hwang, Sungkyung; Matsumura, Michio; Wang, Mingzhou; Jin, Liping

CORPORATE SOURCE: Research Center for Photoelectrochemistry of Organic Materials, Institute of Advanced Materials, Japan

SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (2009), 48(11), 113001, DOI:10.1143/JJAP.48.113001

PUBLISHER: COPIES: JAPAN  
DOCUMENT TYPE: Journal Article

LANGUAGE: English

AB An Eu-complex, Eu[TPPO] (triphenylphosphine oxide), was newly synthesized and used as a phosphor material in electroluminescent devices. The complex was easily deposited as transparent and homogeneous thin film. The emission radiation was successfully applied to electroluminescent devices with a structure of ITO/ITO-coated poly(methyl methacrylate)/Eu-complex layer/hole blocking layer/electron transporting layer. The device structure gave off purple light with luminescence (350 nm). The hole-blocking layer, which was composed of poly(methyl methacrylate), absorbed the red light from this Eu-complex. Without the hole-blocking layer, holes passed through the Eu-complex layer and entered into the electron transporting layer, leading to yellow emission.

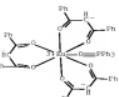
22 (K1212-1F-02)

RE: 00-C (Device component, user); PEP (Preparation); SPM (Synthetic preparation); RPP (Preparation); USES (Uses) (synthesis and red...); COMPLEXES (organic europium complex with triphenylphosphine oxide ligand)

L11 ANSWER 72 OF 82 CAPTION COPYRIGHT 2010 ACS ON EIN 2000156455 CAPTION Full-text

DOCUMENT NUMBER: 1341212627

TITLE: Europium, tri(2,3-diphenyl-1,3-propanedionato- $\omega$ O)-, tri(phenylphosphine oxide- $\omega$ O)-, (TPP- $\gamma$ -1-22'2'2''2'')- (CA INDEX NAME)



00-CITING REF COUNT: 11 THERE ARE 11 CAPTION RECORDS THAT CITE THIS RECORD (11 CITINGS)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 73 OF 82 CAPTION COPYRIGHT 2010 ACS ON EIN 2000156455 CAPTION Full-text

DOCUMENT NUMBER: 1341212628

TITLE: Study on the optical and electrical properties of Eu complexes in organic electroluminescent devices

AUTHOR(S): Lee, Sang Pil; Kim, Jun Ho; Lee, Han Sung; Kim, Jung Seon; Cho, Hyun Kyung; Cho, Hyun Kyung; Cho, Seung Hee; Yoon, Tae Hyoun

CORPORATE SOURCE: Department of Electrical & Electronic Engineering, Korea University, Seoul, 136-701, Korea

SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (2009), 509, 699-712

PUBLISHER: Gordon & Breach Science Publishers, ISSN: 1039-7224

DOCUMENT TYPE: Journal Article

LANGUAGE: English

AB A novel Eu complex, Eu[TNN] (TPPO) was synthesized and its photoluminescent and electroluminescent characterization were studied with a device structure of ITO/TNN/AlOx/AlGaOx, where a sharp emission at the wavelength of 615 nm was observed

17 PEP: DEU (Device component, user); PEP (Physical, engineering or chemical process); PEP (Properties); PMP (Process); USES (Uses) (optical and elec... properties of Eu complex in organic electroluminescent devices)

NB 121212-29-0 CAPTION  
CM 221212-29-0 CAPTION  
RE: 00-CITING REF COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

with Eu isocyanate, the carbamate is stable, can be readily purified by recrystn. from toluene, and can be polymerized directly with diisoro compds under mild conditions. The resulting polymers possess high glass-transition temp., high thermal stability, and good solubility in organic solvents. In comparison, the poly(arylene ether)s ca'-ca'', synthesized from unprotected bisphenol, have lower mol. wt. and wider polydispersity and contain some hydroxyl groups. These functional groups in the poly(arylene ether)s ca' function well as hole-transport materials in  $\lambda$ g-t-wvcd- $\lambda\lambda$  diodes.

11 PEP: DEU (Device component, user); PEP (Physical, engineering or chemical process); PEP (Properties); PMP (Process); USES (Uses) (synthesis of poly(arylene ether)s containing hole-transport moieties from bisphenol, ca'-ca'', synthesized from unprotected bisphenol, have low mol. wt. and wider polydispersity and contain some hydroxyl groups. These functional groups in the poly(arylene ether)s ca' function well as hole-transport materials in  $\lambda$ g-t-wvcd- $\lambda\lambda$  diodes).

RE: 00-CITING REF COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 74 OF 82 CAPTION COPYRIGHT 2010 ACS ON EIN 2000156455 CAPTION Full-text

DOCUMENT NUMBER: 1341212629

TITLE: Synthesis of poly(arylene ether)s containing hole-transport moieties from bisphenol, ca'-ca'', synthesized from unprotected bisphenol, have low mol. wt. and wider polydispersity and contain some hydroxyl groups. These functional groups in the poly(arylene ether)s ca' function well as hole-transport materials in  $\lambda$ g-t-wvcd- $\lambda\lambda$  diodes.

CM 3  
CNW 220015-93-9  
CMF C44 H32 N2 O 2



CM 2  
CNW 220015-93-9  
CMF C18 H12 N2 O 2



RE: 220015-93-4 CAPTION

CM Poly(arylene-1,4-phenylene(phenylphosphinylidene)-1,4-phenyleneoxy-2,6-naphthalenemethyl(phenylimino)-1,1'-biphenyl)-4,4'-diyl(phenylimino)-2,6-naphthalenemethyl(phenylimino)-1,1'-biphenyl (NCl) (CA INDEX NAME)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 75 OF 82 CAPTION COPYRIGHT 2010 ACS ON EIN 2000156455 CAPTION Full-text

DOCUMENT NUMBER: 1341212630

TITLE: Synthesis of poly(arylene ether)s containing masked bisphenol

AUTHOR(S): Lu, Jianping; Hill, Antreas R.; Hay, Allen S.; Wang, Xiang; Li, Mengyi; Dabestani, Jean-Sam; Lam, Jennifer; Djuric, Mirela

CORPORATE SOURCE: Department of Chemistry, McGill University, Montreal, Quebec, Canada

JOURNAL: Journal of Polymer Science, Part A: Polymer Chemistry (2009), 38(15), 2740-2748

PUBLISHER: COPIES: CANADA  
DOCUMENT TYPE: Journal Article

LANGUAGE: English

AB The synthesis of poly(arylene ether)s containing masked bisphenol has been the focus of much research. In recent years because of the need for high molecular weight and high thermal stability, the high molecular weight poly(arylene ether)s, ca'-ca'', containing naphthyl-substituted bisphenol moieties have been synthesized from carbamates derived from bisphenol. After masking

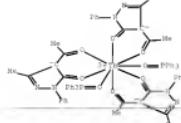


phenyl-3-methylpyrazol-1(3H)-one $\bullet$ O)bis(triphenylphosphine oxide $\bullet$ O) - (CA INDEX NAME)



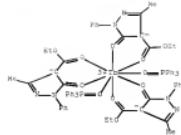
BN 223362-01-9 CAPIUS

CH Terbium, triis(4-(n-methyl-2,4-dihydro-5-methyl-3H-pyrazol-3-oxo-2O)bis(triphenylphosphine oxide-2O) - (CA INDEX NAME)



BN 223362-02-0 CAPIUS

CH Terbium, triis(2,4-dihydro-3-methyl-4-(1-(n-Butyl-2-phenyl-3H-pyrazol-2-oxo-2O)propyl)-2-phenyl-3H-pyrazol-3-oxo-2O)bis(triphenylphosphine oxide-2O) - (CA INDEX NAME)



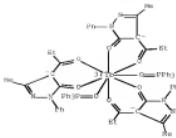
BN 223362-04-4 CAPIUS

CH Terbium, triis(4-(5-dihydro-2H,3H-3-methyl-5-(oxo-2O)-1-phenyl-1H-pyrazol-4-carboxamido-2O)bis(triphenylphosphine oxide-2O) - (CA INDEX NAME)



BN 223362-07-5 CAPIUS

CH Terbium, triis(4,5-dihydro-2H-3H-3-methyl-5-(oxo-2O)-1-phenyl-1H-triphenyl-1H-pyrazol-4-carboxamido-2O)bis(triphenylphosphine oxide-2O) - (CA INDEX NAME)



BN 223362-07-5 CAPIUS

CH Terbium, triis(2,4-dihydro-5-methyl-4-(1-(naphthalenylcarbonyl-2O)-2-phenyl-3H-pyrazol-3-oxo-2O)bis(triphenylphosphine oxide-2O) - (CA INDEX NAME)



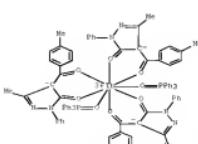
BN 223362-07-5 CAPIUS

CH Terbium, triis(2,4-dihydro-5-methyl-5-(oxo-2O)-1-phenyl-1H-pyrazol-4-carboxylate-2O)bis(triphenylphosphine oxide-2O) - (CA INDEX NAME)



BN 223362-08-6 CAPIUS

CH Terbium, triis(2,4-dihydro-5-methyl-4-(4-methoxybenzoyl-2O)-2-phenyl-3H-pyrazol-3-oxo-2O)bis(triphenylphosphine oxide-2O) - (CA INDEX NAME)



PAGE 1-A

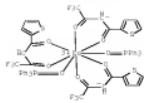
BN 223362-09-7 CAPIUS

CH Terbium, triis(2,4-dihydro-5-methyl-4-(1-naphthalenylcarbonyl-2O)-1-

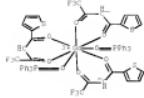
J.

PAGE 2-A





BN 200292-99-5 CAPIUS  
CS Gadolinium, tri[4,4,4-trifluoro-1-(2-thienyl)-1,2-butanedionato-  
kO,<sup>14</sup>NO]bis(triphenylphosphine oxide-<sup>10</sup>) (9CI) (CA  
INDEX NAME)



US CITIEN REF COUNT: 46 THERE ARE 46 CAMPUS RECORDS THAT CITE THIS  
REFERENCE COUNT: 14 RECORD (4 CITIENS)  
CAMPUS REFERENCE COUNT: 14 REFERENCES AVAILABLE FOR THIS  
CAMPUS REFERENCE COUNT: 14 RECORDS, 14 REFERENCES AVAILABLE IN THE RE FORMAT  
  
L13 ANNEX 79 OF 82 CAMPUS COPYRIGHT 2010 ACS ON STM  
ACCESSION NUMBER: 1997151836 CAMPUS Full-text  
DOCUMENT NUMBER: 121394543  
MANUFACTURER REFERENCE NO.: 1271364363\_N006A  
TITLE: *Antimicrobial material for  
organza and woven device and  
organza woven device for which  
the antimicrobial material is  
added*  
INVENTOR(S): Tanaka, Michio; Endo, Toshiro  
PATENT ASSIGNEE(S): Toyota Motor Manufacturing Co., Ltd., Japan  
Filing Date: 2001-09-11 PP  
DOCUMENT TYPE: COSEN EXXON  
JAPAN  
Filing Date: 2001-09-11 PP  
FAMILY ACC MUN COUNT: 1  
PUBLICATION DATE: 2003-03-12

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

Coups for use in electroluminescent devices are described by the general formulae I and II (A) are the same or substituted groups each = (unsubstituted alkyl), (unsubstituted monogroup), or (unsubstituted fused polycyclic group) and R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub> and R<sub>11</sub> which they are attached, form a substituted or unsubstituted heterocyclic ring R<sub>12</sub> are independently selected from H, halogen atoms, (unsubstituted alkyl), (unsubstituted monogroup), (unsubstituted fused polycyclic group) or (unsubstituted fused polycyclic group) and R<sub>13</sub> & R<sub>14</sub> are independently selected from various linking groups. Televisions sets, color emitting devices, copy machines, liquid crystal displays, displays, light emitting diodes, photoresistors, photodiodes, converters, cathode ray tubes, and storage devices containing electroluminescent devices employing the compds. are also described.

RE: DEV (Device component use); FPF (Properties); USES (Uses)  
(Iethyl-*exocyclic*; materials based on  
bis(aminophenyl)anthracene derivs. for organic electroluminescent devices  
and the electroluminescent devices and devices using them)

194296-56-5 CAPFLUS  
Benzosine, 4,4'-(9,10-anthracenediyl)bis[N,N-bis(4-(diphenylphosphinyl)phenyl)- (CA INDEX NAME)

1933-1934 (continued from page 1) — (See above)

The authors present the synthesis, the characterization, and the use in light-emitting diodes of a new blue- $\lambda_{max}$ -emitting copolymer, poly[2,2'-5',5''-tetraphenyl-terphenyl-4,4'-ylenevinylene- $p$ -phenylenevinylene]. This copolymer, obtained by a  $\text{Pd}^{\text{Cl}}\text{C}$  reaction, has a fully unpaired backbone consisting of regularly alternating terphenylene and phenylenebisvinylene blocks. The presence of well-defined chromophores resulting from steric interactions along the polymer chain, together with strong blue fluorescence both in solution and in thin solid films,  $\text{Blue}_{\text{solid}} = 470 \text{ nm}$ , indicates that these diodes were fabricated by using this polymer as an emitter layer.

IT 618-7496  
PL: TNO (Preparation, unclassified); PFR (Properties); PREP (Preparation)  
(synthesis and characterization of new efficient blue-1: poly-  
merizing copolymer and its model compound)

BRN 6163-63-9 CAPILOS  
CN Rhombine oxide, tri(2-methoxyphenyl)- (CA INDEX NAME)



CITING REF COUNT: 89 THERE ARE 89 CAFUS RECORDS THAT CITE THIS RECORD (89 CITINGS)

111 ANSWER 81 OF 82 CACLU5 COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 3982:482368 CACLU5 Full-text  
DOCUMENT NUMBER: 97:82188

TECHNICAL REFERENCE NO.: 97133908, 13512A  
 TITLE: Mechanochemical and high-pressure photoluminescence properties of Mn<sup>2+</sup>-doped ZnS crystals are reported. The mechanochemical spectra consist of  $\pi\pi^*$  and  $Mn$  emissions. The spectra of the non-anionized ZnS crystal are reported. The spectra of the Mn-doped ZnS crystal, the possible mechanism of the mechanochemical excitation is explained. The possible mechanism of the photoluminescence excitation is also discussed.

14552-77-3  
 BLU TPE (Properties)  
 (luminance of)  
 14552-77-3 CARLOS  
 Manganese, dibromobis(triphenylphosphine oxide-K)-, (T-6)- [CA  
 THICK, SMPK]

Pt,Pt= C=C+  
Pt,Pt= C=C+ C=C=O  
Pt,Pt= C=C+

L11 NUMBER: B2 OF 82 CAPDUS COPIRIGHT 2010 ACS on STM  
ACCESSION NUMBER: 10821768801 CAPDUS Full-text

DOCUMENT NUMBER: 94176883

ORIGINAL REFERENCE NO.: 9512551a,1251ba

TITLE: *Macroporous, dichlorobis(triarylpophosphine oxide)-K<sub>n</sub>-(T<sub>n</sub>)<sub>m</sub> organic photoluminescent and electroluminescent devices*

INVENTOR(S): t  
Chen, S. H.; Li, P.J.; Raj, K.J.; Chembukar, T. K. R.

DEP. PHYS., Govt. Sci. Coll., Raipur, 492 002, India

SOURCE: PCT/IND/2009/000141, Applied Research (0-021), 6012, E20-A20

COUNTRY: PSLAND (ISDN: 0031-9865)

DOCUMENT TYPE:

Journal Article

LANGUAGE: English

AB: The *cis*-*cis*-bis(arene) (EL) and mechanoluminescence (ML) of MacBPPOC<sub>2</sub>C<sub>2</sub> are reported. The ML spectra of the crystals contain a series of bands between 300 and 420 nm which may be assigned to the (3n → 3p) emission of mol N3<sub>2</sub> at peak 355 nm or 375 nm. N3<sub>2</sub> is nearly 10 times less as compared to the peak at 310 nm. The emission of mol N3<sub>2</sub> at 355 nm and 375 nm in the solid state emission suggests 2 main possibilities of the mechanism. Induced excitation of the luminescence centers (1) or the thermal population of the excited states at high pressure may be the possible mechanism for the luminescence centers. The similarity indicates that the mechanism of excitation may involve the reaction of damaged surfaces during fracture which may produce a sufficient electric field for the excitation.

12 /4494-9-1

RE: *cis*-*cis*-bis(arene) properties

(1) *cis*-*cis*-bis(arene)- and mechanoluminescence of)

14494-9-1 CAPDUS

CB: Macroporous, dichlorobis(triarylpophosphine oxide)-K<sub>n</sub>-(T<sub>n</sub>)<sub>m</sub> (CA INDEX NAME)

-->

Executing the logoff script... :)

--> LOG T

-->

(FILE "HOME" ENTERED AT 00:13:19 08 06 MAR 2010)

FILE "REGISTRY" ENTERED AT 00:13:157 ON 26 MAR 2010

L1 STRUCTURE UPLOADED SSS FUL L1

L2 1 SEA FILE-REGISTRY SSS FUL L1

L3 FILE "CAPDUS" ENTERED AT 00:40:126 ON 26 MAR 2010

3 SEA FILE-CAPDUS SPS-ON ABB-ON FLD-ON L2

D IRIB ABS HITSTR 1-

L4 FILE "REGISTRY" ENTERED AT 00:40:132 ON 26 MAR 2010

3 SEA FILE-REGISTRY SSS FUL L4

L5 FILE "CAPDUS" ENTERED AT 00:41:026 ON 26 MAR 2010

3 SEA FILE-CAPDUS SPS-ON ABB-ON FLD-ON L5

L6 FILE "REGISTRY" ENTERED AT 00:53:131 ON 26 MAR 2010

L7 STRUCTURE UPLOADED SSS FUL L7

9343 SEA FILE-REGISTRY SSS FUL L7

L8 FILE "CAPDUS" ENTERED AT 00:53:134 ON 26 MAR 2010

7517 SEA FILE-CAPDUS SPS-ON ABB-ON FLD-ON L8

L9 145 SEA FILE-CAPDUS SPS-ON ABB-ON FLD-ON L9 AND ELECTROLUMINESCENCE OR ELECTROLUMINESCENT (LIGHT EMITTING) OR OLED

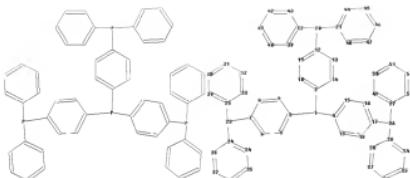
L10 82 SEA FILE-CAPDUS SPS-ON ABB-ON FLD-ON L10 AND PT-2005 OR AV-2005

D IRIB ABS HITSTR 1-

--> Uploading C:\Program Files\STN\STN\Queries\10599334-claim 6-v 1 str

Pt,Pt= C=C+ Pt,Pt= C=C+  
Pt,Pt= C=C+

-->  
--Logging off of STM--



chain nodes 1

1 20 23 26

ring nodes 1

3 5 6 7 9 10 11 12

13 14 15 16 17 18

19 20 21 22 23 24

25 26 27 28 29 30

31 32 33 34 35 36

37 38 39 40 41 42

43 44 45 46 47 48

49 50 51 52 53 54

55 56 57 58

chain bonds 1

1-2 1-3 2-4 3-5 3-6 4-5 4-19 5-6 6-7 7-8 8-9 10-11 11-12 12-13

13-14 14-15 15-16 16-17 17-18 18-19 21-24 22-29 22-43 24-34 24-38 25-29 25-33

28-49 28-58 29-30 30-31 31-32 32-33 34-35 35-36 36-37 37-38 39-40 40-41

42-43 43-44 44-45 45-46 46-47 47-48 48-49 50-51 51-52 52-53 54-55 55-56 56-57 57-58

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13-14 14-15 15-16 16-17 17-18 18-19 21-24 22-29 22-43 24-34 24-38 25-29 25-33

28-49 28-58 29-30 30-31 31-32 32-33 34-35 35-36 36-37 37-38 39-40 40-41

42-43 43-44 44-45 45-46 46-47 47-48 48-49 50-51 51-52 52-53 54-55 55-56 56-57 57-58

normalized bonds 1

2-10 2-14 3-15 3-19 4-19 5-6 6-7 7-8 8-9 10-11 11-12 12-13

13-14 14-15 15-16 16-17 17-18 18-19 21-24 22-29 22-43 24-34 24-38 25-29 25-33

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normalized bonds 1

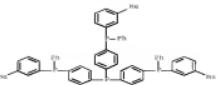
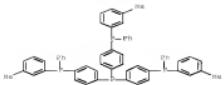
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13-14 14-15 15-16 16-17 17-18 18-19 21-24 22-29 22-43 24-34 24-38 25-29 25-33

28-49 28-58 29-30 30-31 31-32 32-33 34-35 35-36 36-37 37-38 39-40 40-41







OR CITING REF COUNT: 9 THERE ARE 9 CAMPUS RECORDS THAT CITE THIS RECORD  
(9 CITINGS)

L3 ANGNER, G. E. CAMPUS COPYRIGHT 2010 ACS ON 27H  
 JOURNAL OF POLYMER SCIENCE: PART A-1  
 FULL-TEXT  
 DOCUMENT NUMBER: 139-374624  
 TITLE: Organic electroconductive polymer device comprising  
 a polyimide compound  
 INVENTOR(S): Matsunaga, Hiroaki; Yamada, Tatsuharu; Kita, Hiroaki  
 ASSIGNEE(S): Matsunaga, Hiroaki; Building Int'l., Japan  
 Jpn. Kokai Tokkyo Koho, 23 pp  
 DOCUMENT ID: COHEN-JXKKA  
 DOCUMENT TYPE:  
 LANGUAGES:  
 PAGES: 1  
 COSTS: NEW COSTS: 1  
 PAYMENT INFO: 20091001

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003317965	A	20031107	JP 2002-123019	20020425
JP 4105442	B2	20090518		
JP 2007329494	A	20071120	JP 2007-197216	20070730
JP 4129599	R2	20080906		
JP 2007329495	A	20071120	JP 2007-197217	20070730
JP 4185016	B2	20081119		

PRIORITY APPROVAL INFO : JP 2002-133819 A5 20020425  
SOURCE(S) : MARPAT 139;371624  
A6 The invention refers to an organic electroluminescent display device  
comprising a pentavalent or trivalent Zn.  
IT  $\text{Zn}^{+2}$   
E6 DEV [Device component used], GSES (Device)  
[organic electroluminescent display device with phosphorus compound  
AM CSO3-53-3 CAPLOSS  
AM phenyl, triis-[4-(*n*-methylphenyl)phenylphosphino]phenyl]- ICA INDEX  
Y100

OS CITING REF COUNT: 54 THERE ARE 54 CACUS RECORDS THAT CITE THIS RECORD (54 CITINGS)

---Logging off of STN---

=> Executing the logoff script...

=> LOG T

(FILE 'HOME' ENTERED AT 10:46:36 ON 22 JUL 2010)

FILE 'REGISTRY' ENTERED AT 10:47:05 ON 22 JUL 2010

11 STRUCTURE OF LIGANDS  
12 3.3.10.1 THE PREGNENOLONE RECEPTOR

REGISTRATION NUMBERED AS 30-48-23 ON 22 JULY 2010

L3 6 SEA FILE=CAPLUS SPE=09 ABB=09 PLU=09 L2

D 1818 ABS NYT889 1-

05 CITING REF COUNT: 3 THERE ARE 3 CAPLOS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

